ME.

ME 915

project
mercury

DIGITAL JUNCTION BOX MERCURY CONTROL CENTER

prepared for
National Aeronautics and Space Administration
Contract No. NAS 1-430

1 october 1960

revised 15 june 1961

International Business Machines Corporation

in association with
WESTERN ELECTRIC COMPANY, INC.

LIST OF EFFECTIVE PAGES

Page No.	*Issue*	*Page No.*	*Issue*
*Title	15 June 1961		
*A	15 June 1961		
*i thru iii	15 June 1961		
1-1, 1-2	Original		
2-1 thru 2-4	Original		
*2-5 thru 2-8	15 June 1961		
3-1	Original		
4-1 thru 4-8	Original		
*5-1	15 June 1961		
5-2 thru 5-6	Original		
*5-7 thru 5-11	15 June 1961		
5-12 thru 5-25	Original		
6-1 thru 6-12	Original		
*Appendix A	15 June 1961		
*Appendix B	15 June 1961		
*Appendix C	15 June 1961		

* The asterisk indicates pages changed, added or deleted by the current change.

TABLE OF CONTENTS

TABLE OF CONTENTS (cont'd)

LIST OF ILLUSTRATIONS

LIST OF ILLUSTRATIONS (cont'd)

LIST OF TABLES

CHAPTER 1

INTRODUCTION

1.1 PURPOSE OF MANUAL

The purpose of this manual is to provide information concerning the identification, operation, installation, and maintenance of the Digital Junction Box (fig. 1-1) and the Interface Junction Box (fig. 1-2).

1.2 SCOPE OF MANUAL

This manual consists of six chapters. Chapter 1 describes the physical and electrical characteristics of the equipment. The theory of operation is presented in Chapter 2, which also describes the method used to change the interconnections between the units which use the junction boxes as connection points. Chapter 3, Operation, is not applicable. The installation procedures in Chapter 4 cover the mounting and wiring techniques and the assembly of the junction boxes. Chapter 5 provides the component location and the maintenance procedures which are performed on the junction boxes to insure reliable operation. The chapter also includes a procedure for corrective maintenance to be used if repair of the units becomes necessary. Chapter 6, Illustrated Parts Breakdown, provides exploded views of the units and a list of all parts used in the units.

1.3 PURPOSE OF EQUIPMENT

The Digital Junction Box and the Interface Junction Box are used to interconnect many of the units used at the Mercury Control Center at Cape Canaveral. In addition, these boxes provide an effective means of changing interconnections to suit the needs of a program.

Inputs to the Digital Junction Box can be fed to any suitable display by means of patching wires on the plugboard.

Input-output (I/O) connections in the Interface Junction Box are made by the use of jumper wires. However, the wiring changes in this junction box are more difficult to make than those in the Digital Junction Box because all interconnections are made by ring-tongue terminals on terminal boards.

1.4 DESCRIPTION OF EQUIPMENT

The Digital Junction Box is 48 x 42 x 12 inches and weighs approximately 400 pounds. It contains forty 52-pin cable connectors, 20 relays, and an IBM plugboard which has 5920 contact plug positions.

The Interface Junction Box is 36 x 40 x 8 inches and weighs approximately 150 pounds. It contains 20 MS-type connectors (18 of which contain 52 pins and 2 of which contain 4 pins each) and 56 terminal boards, each containing 12 terminals designated by the letters a through m.

1.5 ENVIRONMENTAL OPERATING CONDITIONS

The junction boxes are designed to operate within the temperature range of 68°F to 86°F. The temperature at which the boxes operate is controlled by the environment of the building. These buildings are conditioned to maintain a controlled temperature of 75°F to 80°F, with a relative humidity of 35% to 50%.

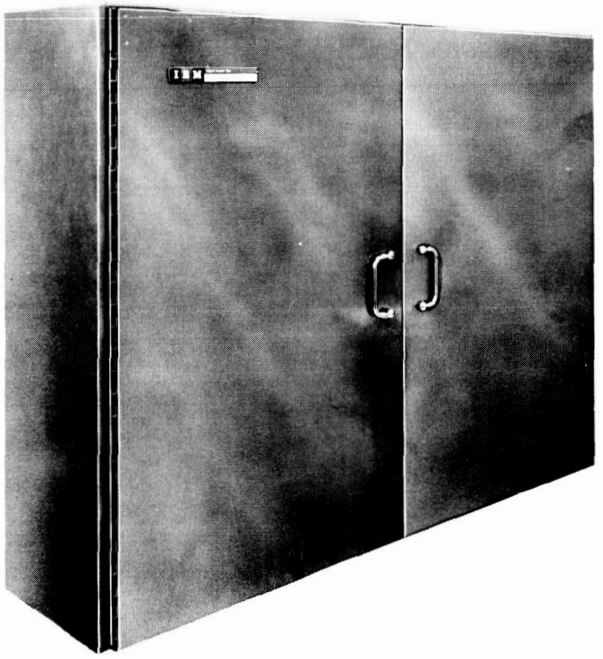


FIGURE 1-1. DIGITAL JUNCTION BOX, FRONT VIEW

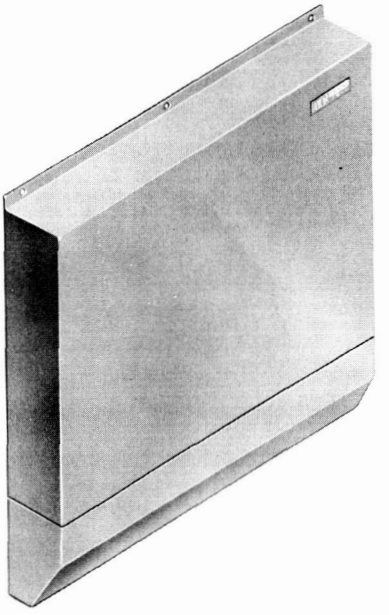


FIGURE 1-2. INTERFACE JUNCTION BOX, FRONT VIEW

CHAPTER 2

THEORY OF OPERATION

2.1 GENERAL

This chapter describes the wiring configuration of the Digital Junction Box and the Interface Junction Box. These wiring interconnections are presented as charts in Appendixes A and B as a ready reference to enable convenient and rapid wiring changes in the system.

2.2 PRINCIPLES OF OPERATION, DIGITAL JUNCTION BOX

2.2.1 General

All I/O connections to and from the Digital Junction Box are made through MS-type cable connectors. The I/O connections are then connected to the back panel (plugboard receptacle) by cable assemblies, as shown in figure 2-1. At the back panel, cables are wired to individual rows, with the first conductor in each cable wired to the 12th contact from the top of the board in alternate rows. The connection at each wire position is also connected by a jumper wire to the next row, so that all wires from the connectors have two common pluggable positions on the front of the plugboard.

The other cables, connected to the upper portion of the plugboard, come from the relays located in the lower right corner (when viewed from the rear) of the unit. Each of these cables interconnects three relays.

Figure 2-2 is a front view of the Digital Junction Box with covers removed. It shows an overall view of the plugboard (without patch wires) and the relays.

The lettering on each panel of the plugboard is shown in figures 2-3 through 2-6.

2.2.2 Patch Wiring on Plugboard

All of the I/O interconnections in the Digital Junction Box are achieved by patched wiring on the plugboard. These I/O interconnections are all listed in Appendix A. The output data includes all digital display data to the D/A connectors for the plot boards and strip chart displays and to the Stromberg Carlson Signal Distribution Panel for digital displays. The input data includes all the display data for receiving register A or B or display data from the B-GE register (by way of the switch unit), and, in addition, it includes direct data from the B-GE register and display data from the Data Quality Monitor.

Other inputs to the Digital Junction Box are the control and indicator lines between the Data Quality Monitor and the Switch Unit. Additional inputs include data source selection lines and flight phase status information which originate at the Data Quality Monitor

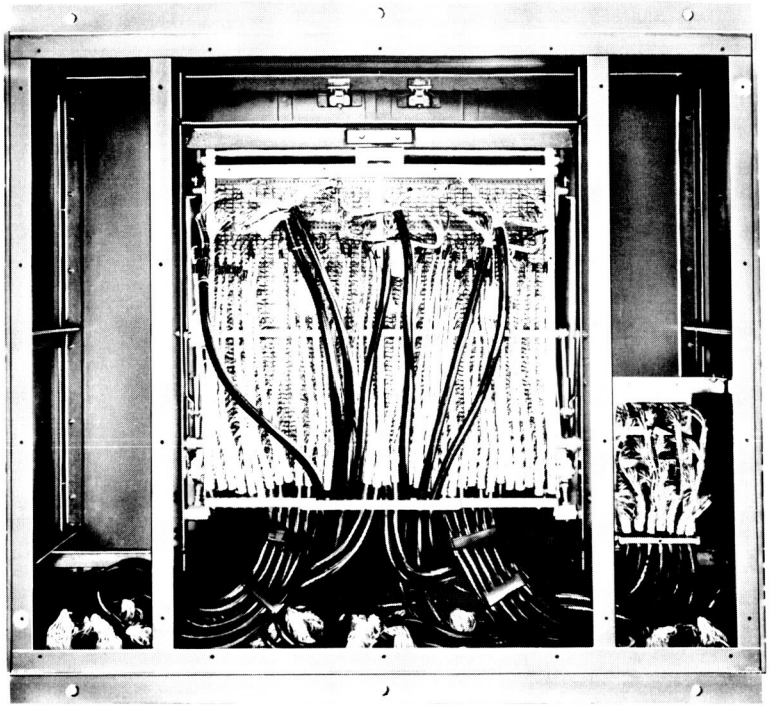


FIGURE 2-1. DIGITAL JUNCTION BOX, REAR VIEW, COVER OFF

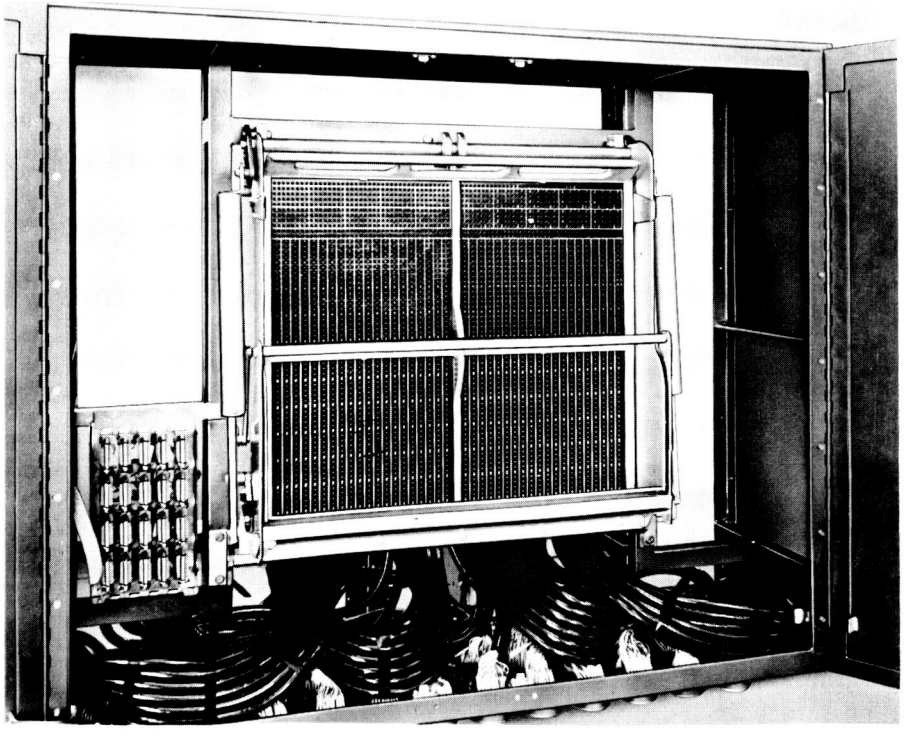


FIGURE 2-2. DIGITAL JUNCTION BOX, FRONT VIEW, COVER OFF

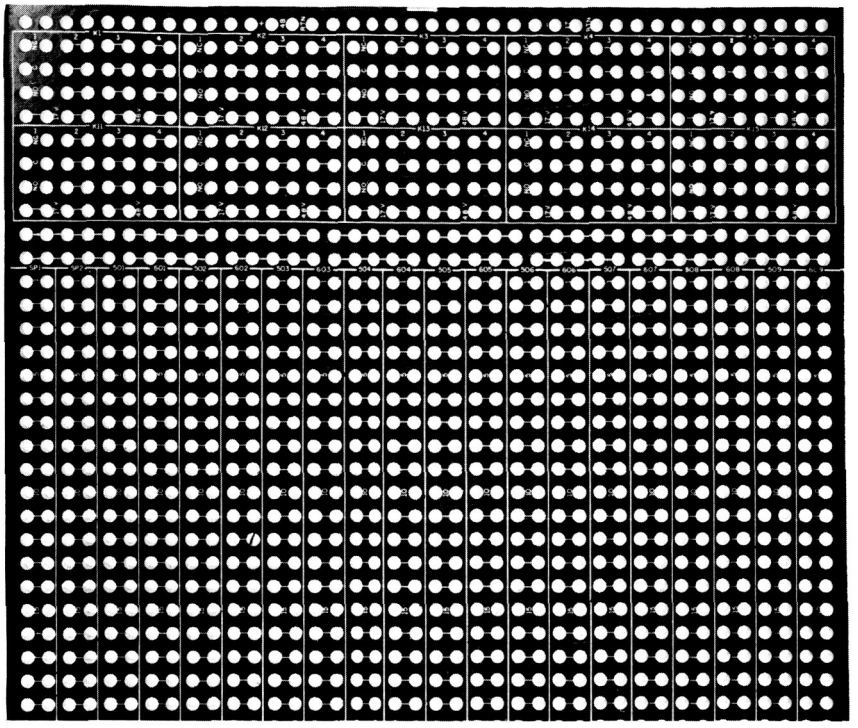


FIGURE 2-3. PLUGBOARD, UPPER LEFT PANEL

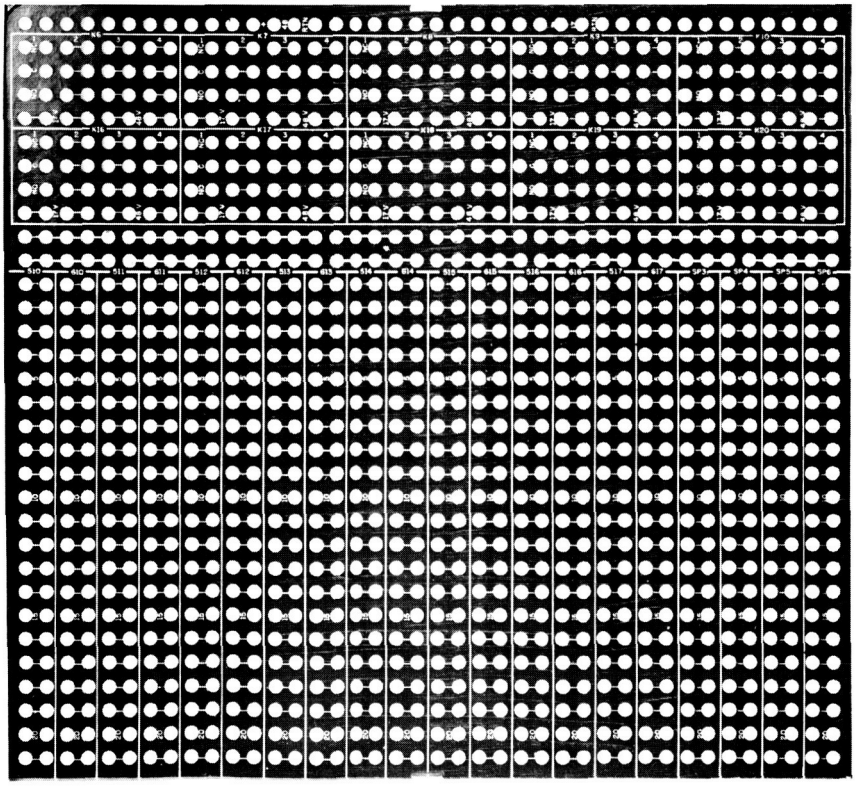


FIGURE 2-4. PLUGBOARD, UPPER RIGHT PANEL

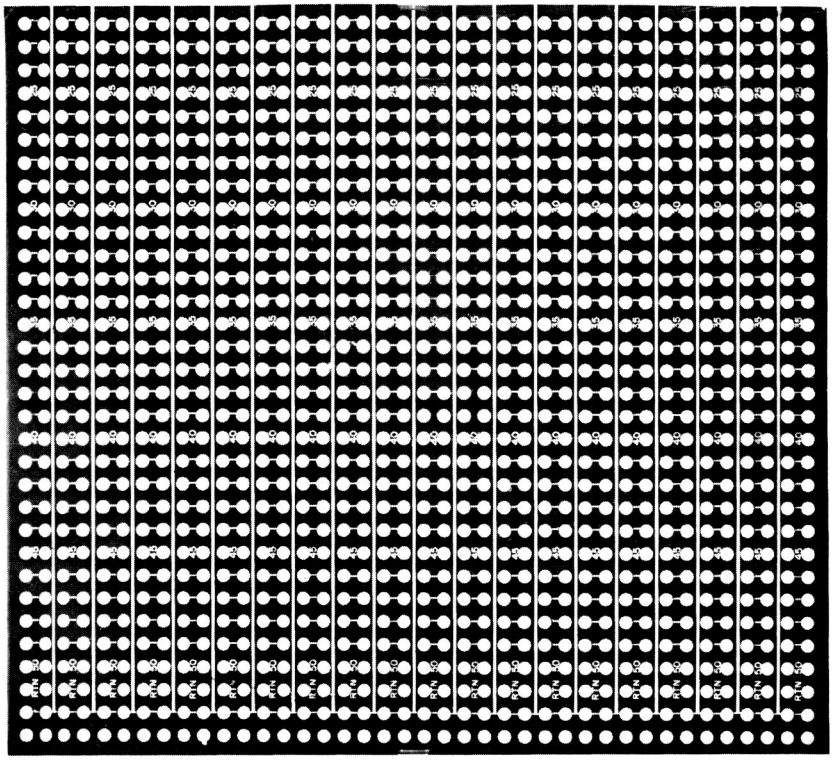


FIGURE 2-5. PLUGBOARD, LOWER LEFT PANEL

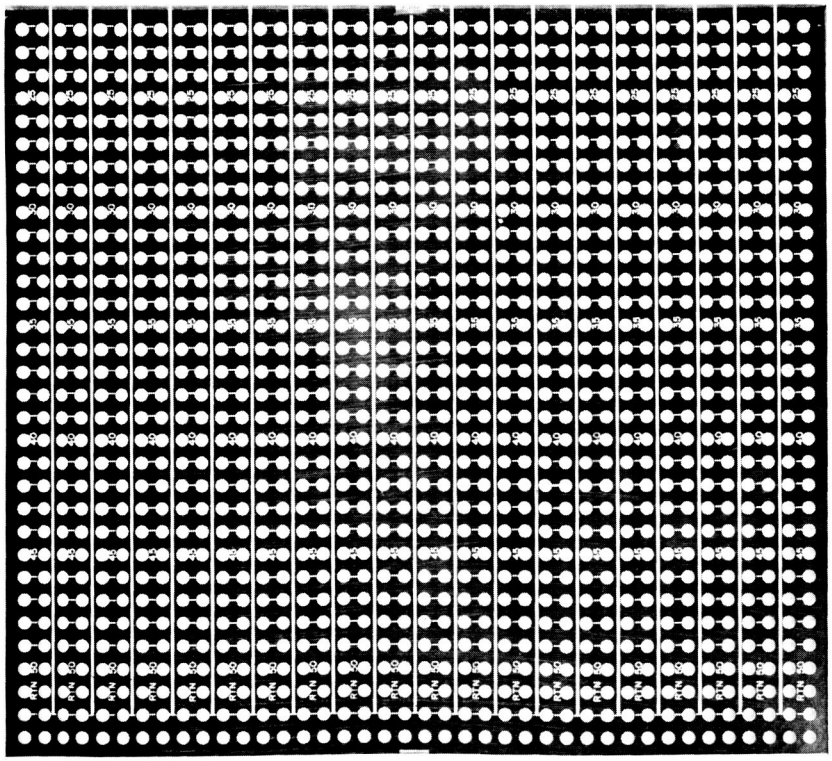


FIGURE 2-6. PLUGBOARD, LOWER RIGHT PANEL

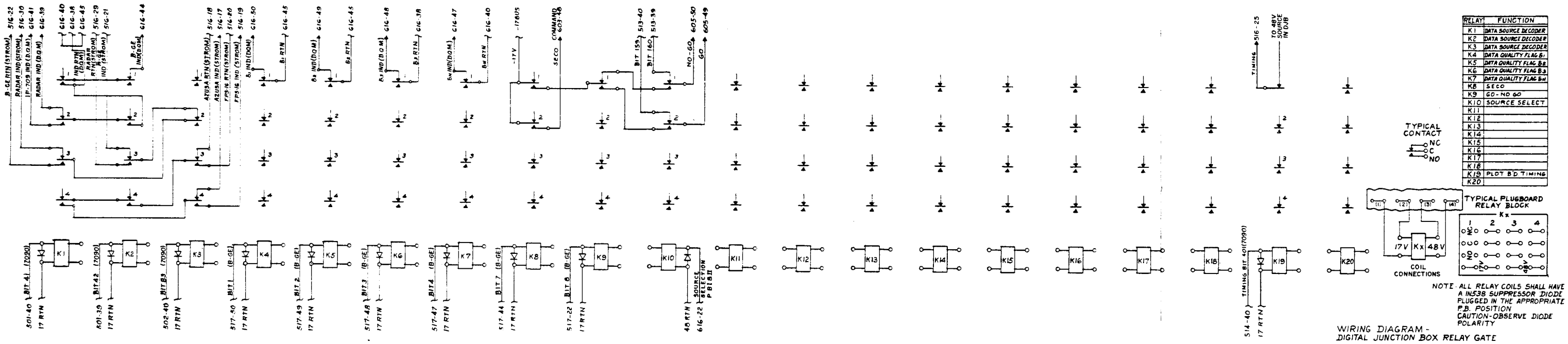


FIGURE 2-7. DIGITAL JUNCTION BOX RELAY GATE, WIRING DIAGRAM

and are sent to the Telemetry Event Buffer for transmission to the Goddard IBM 7090 equipment.

Patched wiring is also used to interconnect the relay contacts and the coils which are brought to the back of the plugboard. All of the relays are shown in figure 2-7. Wiring is illustrated for those relays assigned to perform a function. The coils and contacts for which no assignment has been made are also shown in the figure. The following paragraphs explain the functional operation of the circuitry for those relays which have been wired.

2.2.2.1 Data Source Decoder

Three unique bits, in the message format transmitted from the Goddard IBM 7090 Computer to the Mercury Control Center, indicate the source of the data being processed by the IBM 7090. These bits are decoded by relays located in the Digital Junction Box, with contact closures identifying the source of the data being distributed to both the Data Quality Monitor and the Stromberg Signal Distribution Unit for the Wall Map display. The decoding is accomplished as follows:

Bit 41	Bit 42	Bit 83	Data Source Indication
0	1	0	Radar
1	0	0	B-GE
1	1	0	IP-709 (AZUZA input)
1	1	1	IP-709 (FPS-16 input)

All of the above data, as indicated, is routed for Stromberg displays. However, the Data Quality Monitor utilizes contact closures resulting from bits 41 and 42 only; consequently, only three data source indications are available: Radar, B-GE, and IP-709. Because the finer distinction of the IP-709 input is not necessary, this particular indicator (IP-709) covers both types of IP-709 inputs.

2.2.2.2 Data Quality Flags

Bit positions 1 through 4 of the B-GE message format are displayed on the Data Quality Monitor Console as data quality flags. These are indicator lights which are turned on by relay contact closures originating in the Digital Junction Box. Normal operation of the B-GE computer is indicated by the presence of a 1 in each of these four bit positions. Since the indicators are wired through the normally closed contacts of the flag relays, all lights are off when the relays are energized. Normal blinking may be discernible at a 1/2-second rate due to the periodic clearing of the output registers.

When the computer receives insufficient information, one of the following indicators will light:

δ_1 If the computer is receiving insufficient track data. Therefore, it is integrating rate data to generate position.

δ_2 If the computer is receiving insufficient rate data. Therefore, it is differentiating track data to obtain rate data.

δ_3 If the computer is differentiating track data for lateral rates only.

γ_n If the computer is not receiving sufficient information to generate guidance commands.

2.2.3 Principles of Operation, Interface Junction Box

Figure 2-8 is the front inside view of the Interface Junction Box. The terminal boards and the cables which interconnect these boards and the connectors may be seen.

Input-output interconnections are provided by the patched wiring between the terminal boards. Complete, charted data for the I/O data and the internal wiring is provided in Appendix B.

The information lines connected and patched at the Interface Junction Box include all telephone lines into and out of the Data Selection Room which are connected to the Western Electric Central Distribution Frame. The lines to and from the Telemetry Event Buffer which enter the Data Selection Room are also connected to the Interface Junction Box. In addition, all lines connecting the Telemetry Event Buffer with the Bendix Fire Monitor Cabinet, the Capsule Communications Console, and the Data Quality Monitor Console are fed into the junction box. Selected simulation communications data and control lines are also connected at the Interface Junction Box.

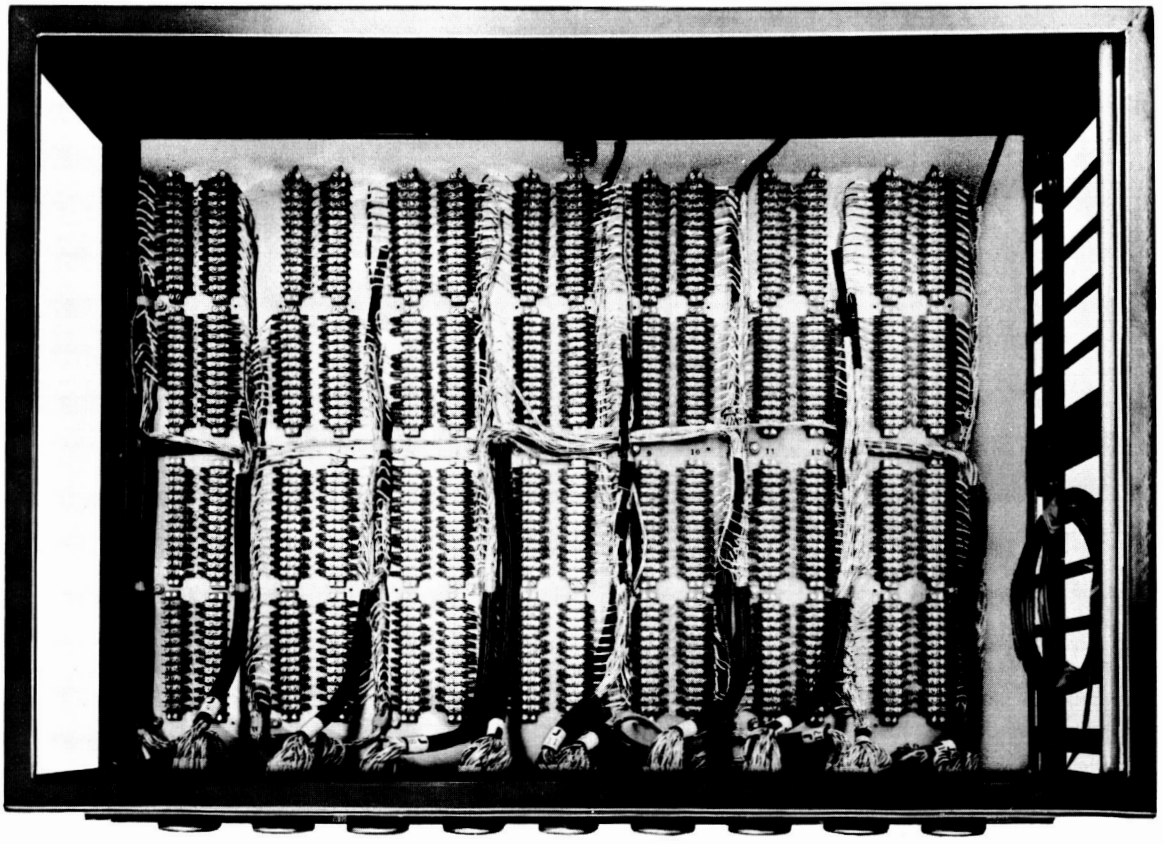


FIGURE 2-8. INTERFACE JUNCTION BOX, FRONT INSIDE VIEW

CHAPTER 3

OPERATION

This chapter is not applicable.

CHAPTER 4

INSTALLATION

4.1 GENERAL

This chapter contains the information required to install the junction boxes. The information is provided to aid in properly placing and installing the units should their installation be required at a location in a building whose configuration is unknown.

4.2 DIGITAL JUNCTION BOX

4.2.1 Cable Hole Location

The cables which connect to the Digital Junction Box are routed beneath the floor. Therefore, when installing this junction box, it is necessary to accurately locate the hole through which the cables must pass. The hole, shown in figure 4-1, is 40 inches long, 3 inches wide, and is positioned directly beneath the anticipated wall location of the junction box.

4.2.2 Mounting

The Digital Junction Box is secured to the wall with six 1/2-inch anchor bolts which are screwed into previously set expansion shields. Figure 4-2 shows the location of the mounting holes, the depth to which the expansion shields should be set, and the hardware used.

4.2.3 Lower Skirt Panel Attachment

The skirt panel (fig. 4-1) is a dress cover used to conceal the cable connection to the junction box. This panel is not attached to the junction box until the box has been mounted on the wall and all the cables have been connected. Figure 4-3 shows the skirt in position and the hardware used to attach it to the junction box.

4.2.4 Raceway Installation

The raceway is 26 inches wide and is made of wire mesh supported by a ladder-like form. The entire structure is secured to the wall by two 1/2-inch lag bolts. Figure 4-1 shows its position in relation to the junction box, and figure 4-2 shows the dimensions for drilling the holes and the hardware used to mount the frame on the wall.

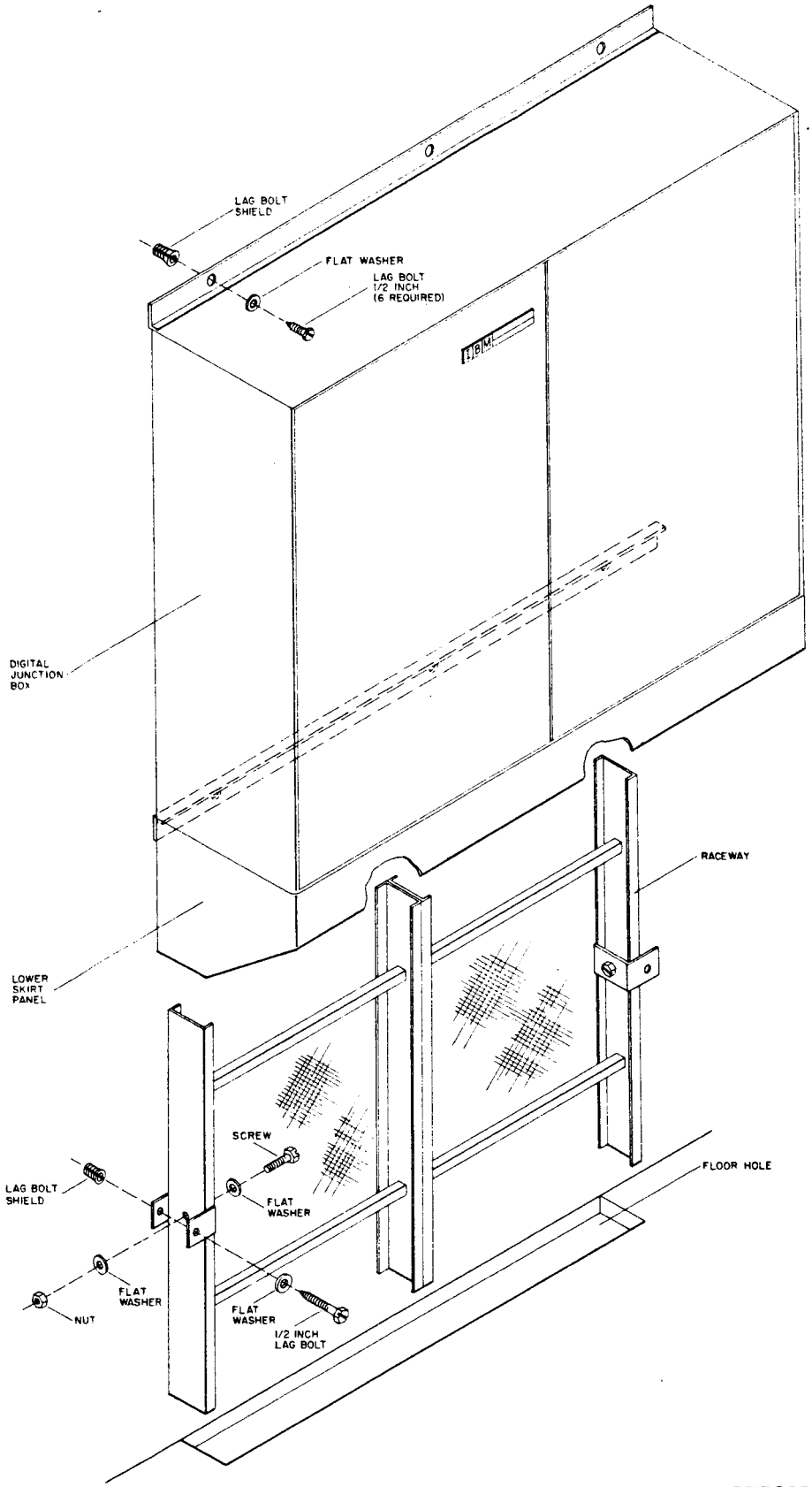


FIGURE 4-1. DIGITAL JUNCTION BOX, RACEWAY POSITIONS, AND MOUNTING HARDWARE

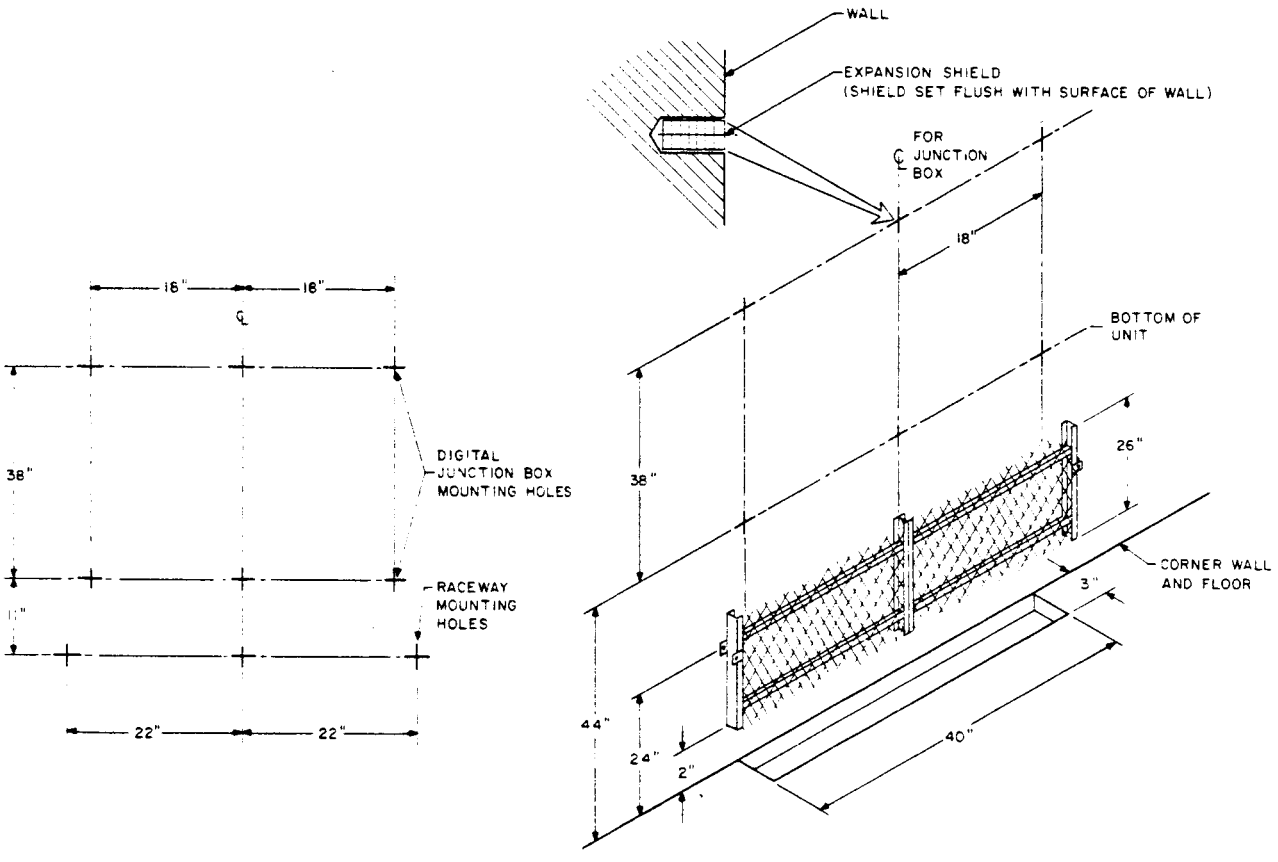


FIGURE 4-2. DIGITAL JUNCTION BOX, MOUNTING HOLE LOCATION

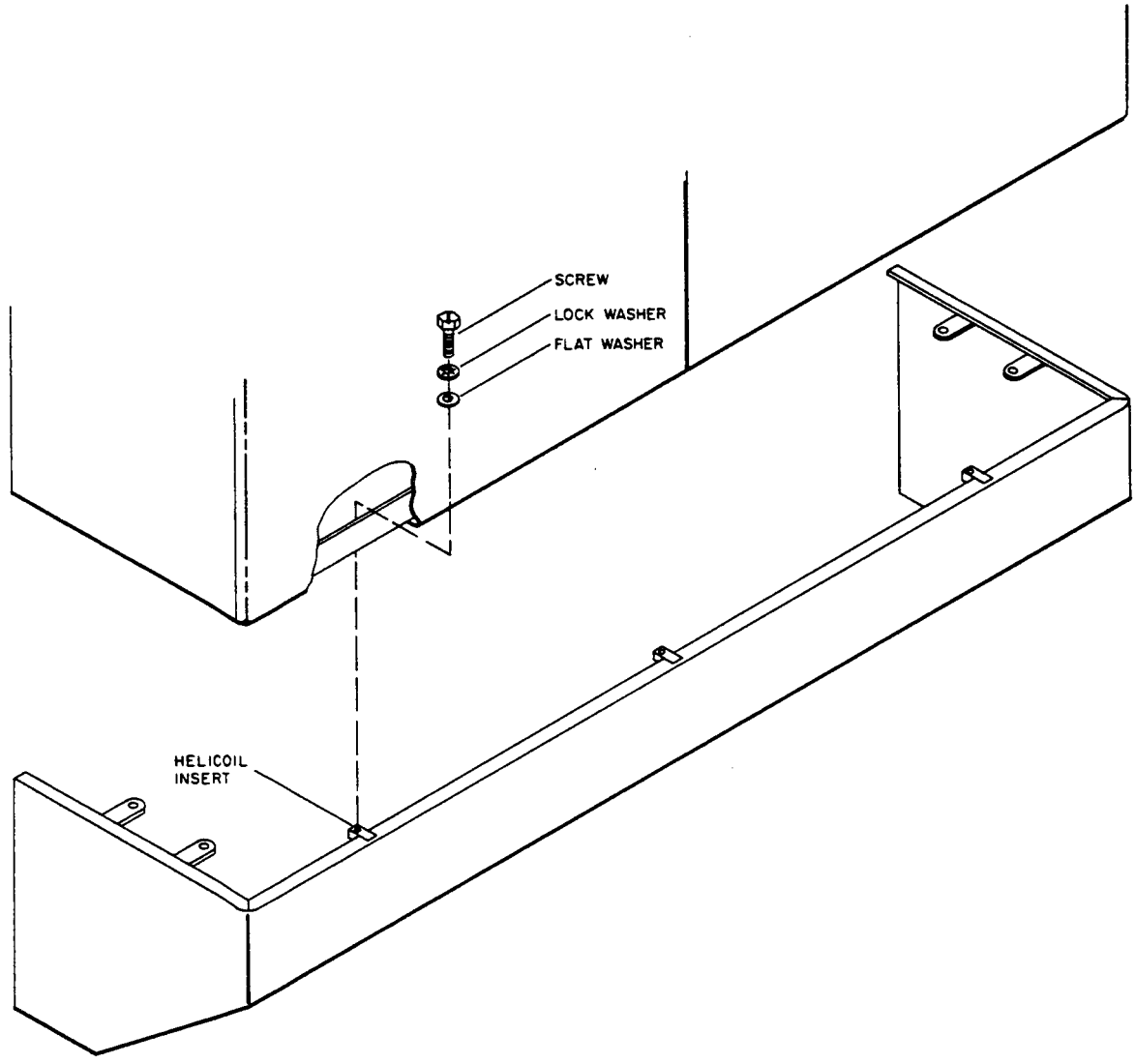


FIGURE 4-3. DIGITAL JUNCTION BOX, LOWER SKIRT PANEL, ATTACHING HARDWARE

4.3 INTERFACE JUNCTION BOX

4.3.1 Cable Hole Location

The hole through which the cables pass is centered directly beneath the proposed location for the junction box. Figure 4-4 shows the dimensions of the floor hole and its location and also shows the position of the junction box in relation to the raceway and floor hole.

4.3.2 Mounting

The Interface Junction Box is secured to the wall in the same manner as the Digital Junction Box; therefore, with the exception of the dimensions, paragraph 4.2.2 is applicable here. See figure 4-5 for the dimensions.

4.3.3 Lower Skirt Panel Attachment

The Interface Junction Box lower skirt panel is a dress cover used to conceal the cable connections made to the box. This skirt is attached to the junction box after it has been mounted on the wall and after all the cables have been installed. Placement of the seven 10-32 screws which secure the skirt to the junction box is shown in figure 4-6.

4.3.4 Raceway Installation

See figure 4-5 for the dimensions to be used when drilling the holes to mount the raceway. This raceway, except for physical size, is the same type as the raceway used beneath the Digital Junction Box (par. 4.2.4).

4.4 CABLE TYING

After the cable connectors have been attached to the proper cable jacks on the junction boxes, the cables are tied to the raceway for support and to remove any strain from the cable plugs.

Either of the two methods described below may be used to tie the cables.

4.4.1 Method I

This method is used to secure each cable individually. Figure 4-6 shows the knot, a clove hitch passed around the cables and through the raceway mesh and secured with an overhand knot.

4.4.2 Method II

This stitch is used to secure a single wire or a group of wires in position. It is made across and perpendicular to the wires and, when tied, will hold the wires in a flat position.

The stitch consists of a starting hitch (fig. 4-7) which secures the first cable in place, a series of overhand knots which secure each successive cable, and a square knot which stops the stitch and secures the last cable.

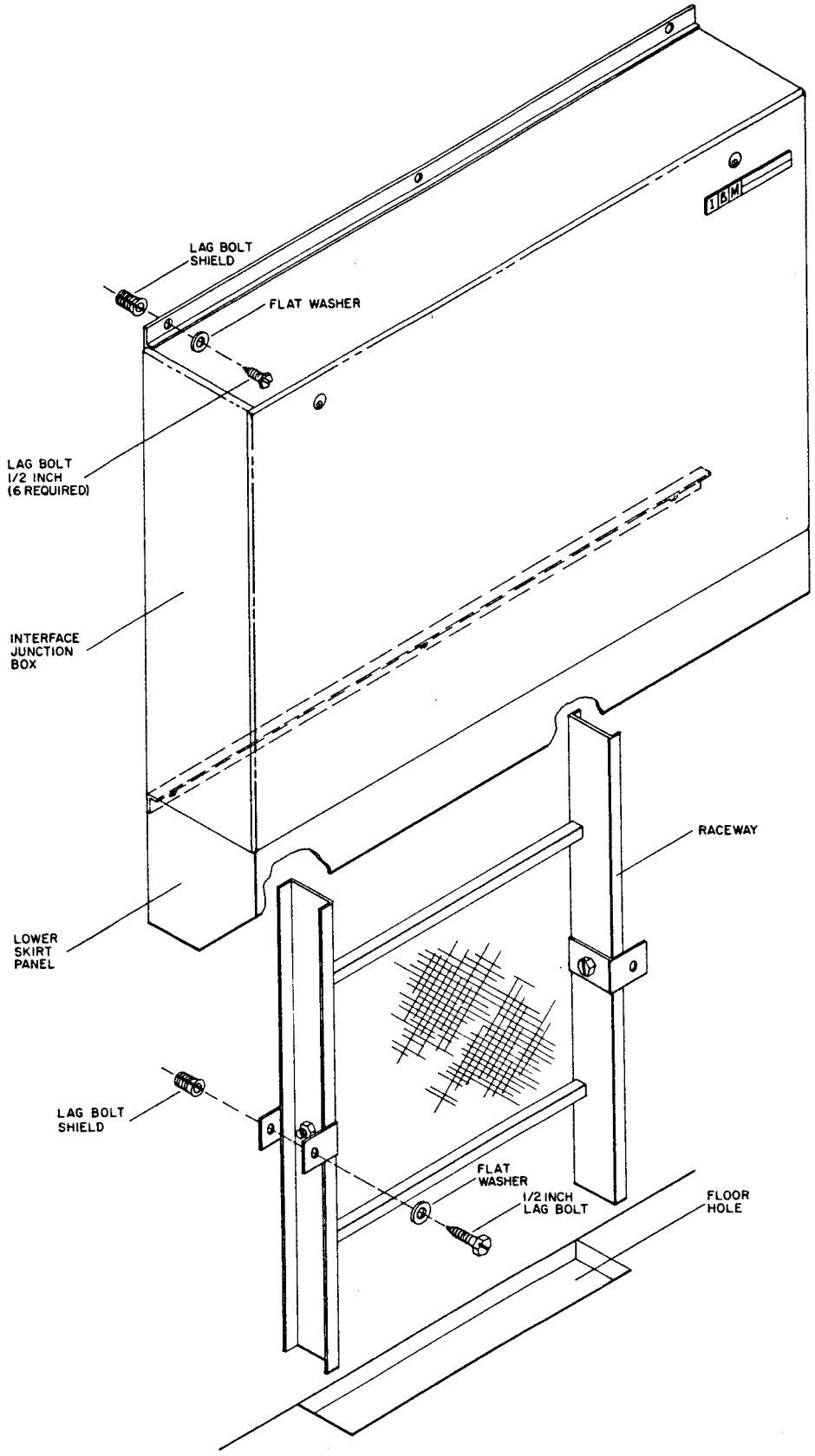


FIGURE 4-4. INTERFACE JUNCTION BOX, RACEWAY POSITIONS, AND MOUNTING HARDWARE

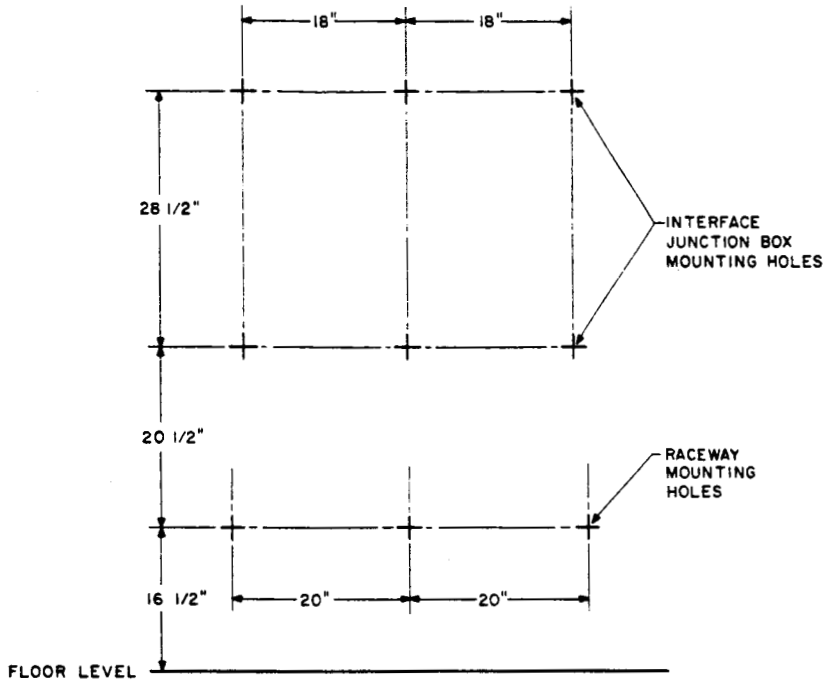


FIGURE 4-5. INTERFACE JUNCTION BOX, MOUNTING HOLE LOCATION

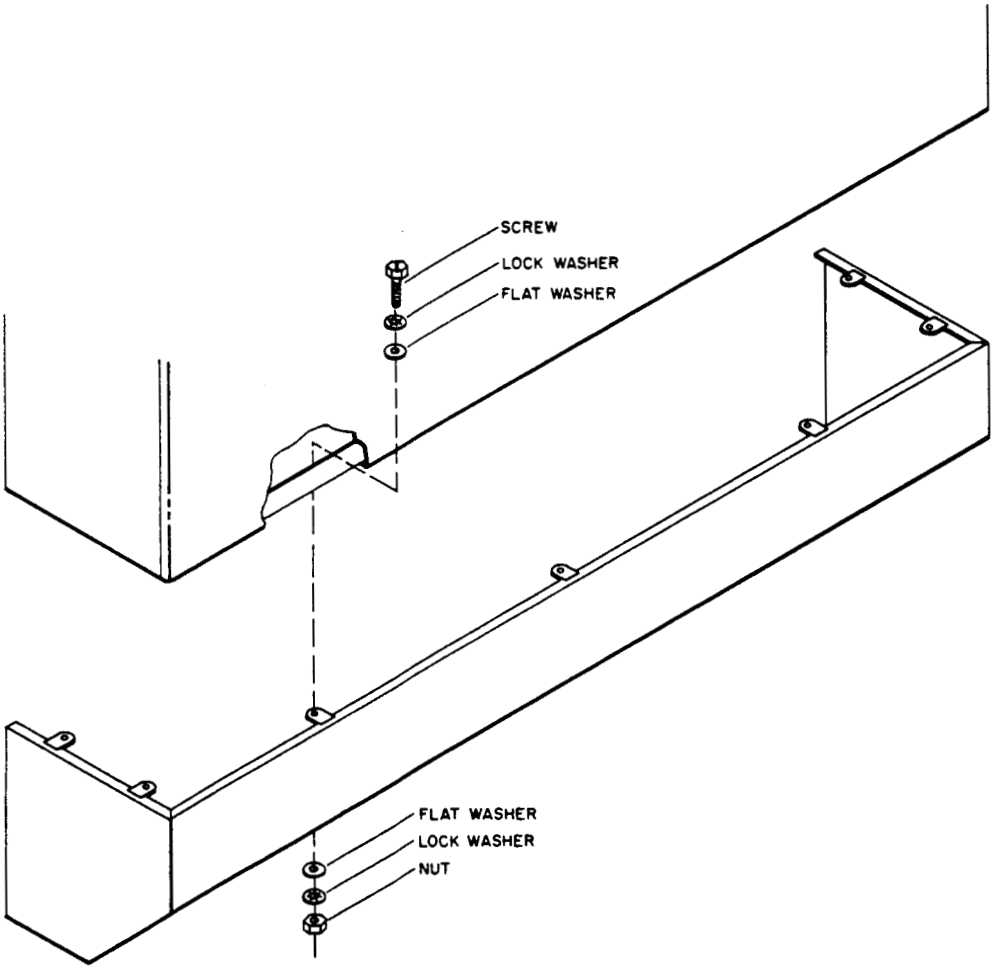


FIGURE 4-6. INTERFACE JUNCTION BOX, LOWER SKIRT PANEL, ATTACHING HARDWARE

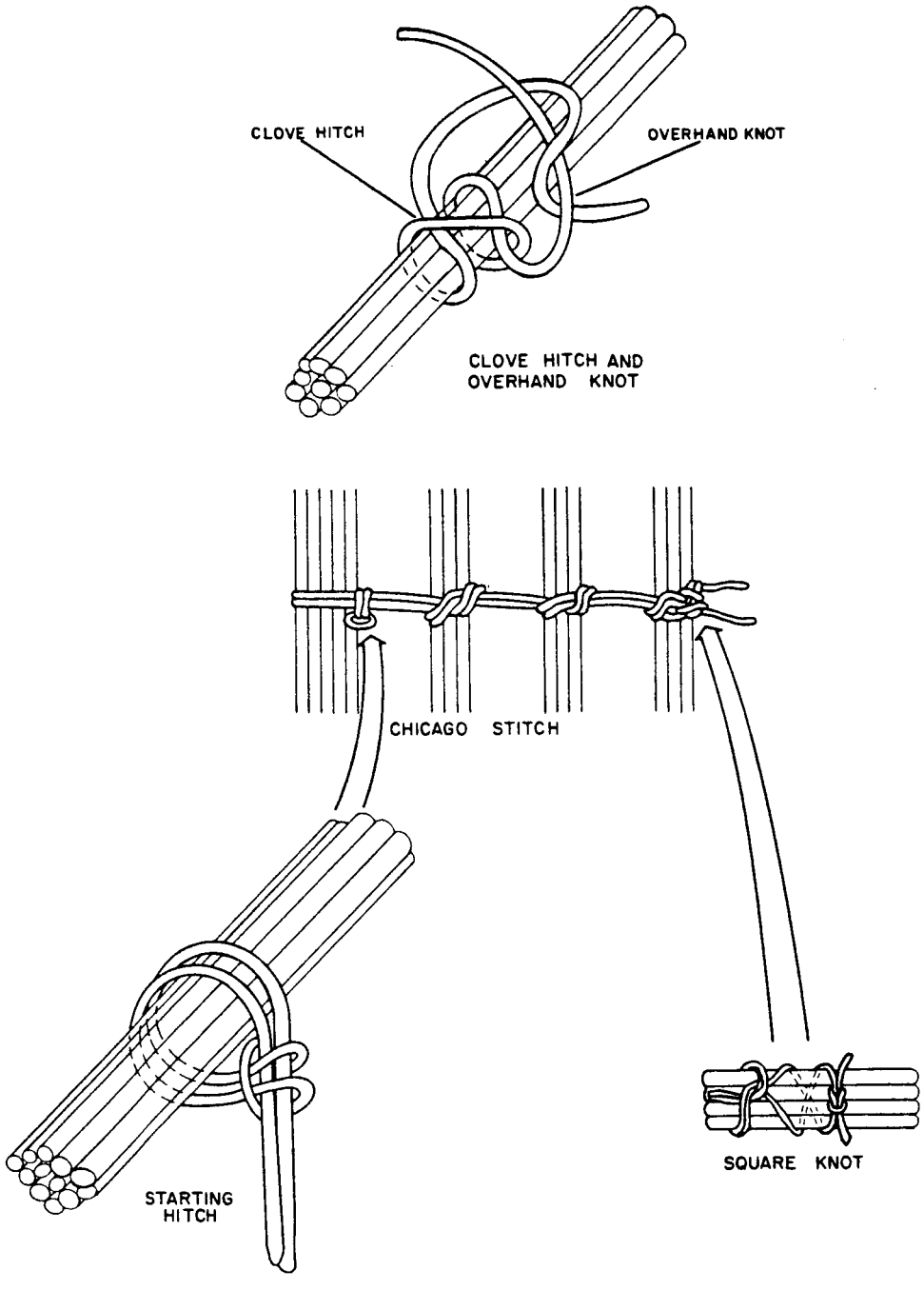


FIGURE 4-7. CABLE-TYING KNOTS

CHAPTER 5

MAINTENANCE

5.1 GENERAL

This chapter provides information on component location and test procedures for the Digital and Interface Junction Boxes. Corrective maintenance procedures normally found in this chapter are not available at this time but will be supplied at a later date, based on reports from the field.

5.2 COMPONENT LOCATION AND WIRING

5.2.1 Digital Junction Box

Figure 5-1 provides complete information for the permanent wiring in the box. The upper left portion of the illustration shows a front internal view of the unit and the connector, relays, and letters which would appear on the back of the plugboard panels. The contact designations for the relays and connectors are also shown. Two sets of numbers appear in the connector layout; those below the pins designate the pin numbers and those within the circles (or pin locations) designate the conductor number which is connected to the pin. This conductor/pin correlation is standard for all connectors.

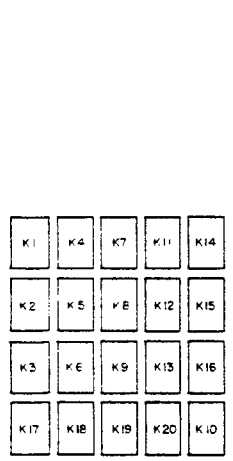
Note

The relays are paralleled by a potted diode assembly (P/N 3218372) that plugs into the plugboard. Patch connections on the plugboard are made using the following jumpers:

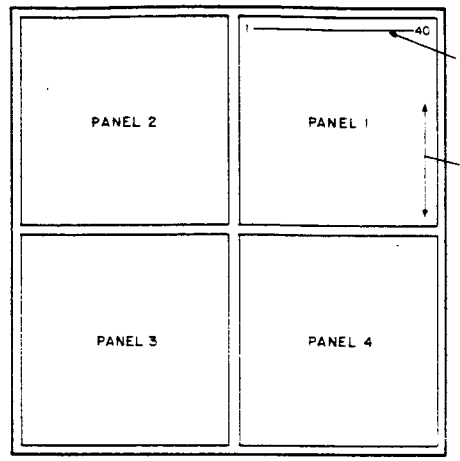
9 inch – P/N 222157
12 inch – P/N 222158
24 inch – P/N 222160
32 inch – P/N 249301

A sectional view of the plugboard (fig. 5-1) illustrates the engraving for several of the 20 relay contact and coil locations (correlation with the relay terminal layout is shown at the left). The coding is as follows: N. C., normally closed; C, common; and N. O., normally open.

The lower part of the section drawing shows a portion of the front panel engraving associated with the 40 connectors which are wired to the rear of the panel. The lettering, which reads SP1, 501, 502, etc., corresponds to the designations of the connectors (to which the I/O cables will be connected). Below these designations are a group of plug locations,



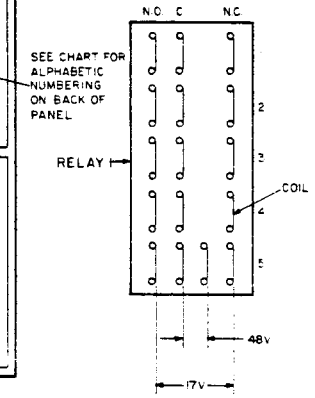
RELAYS



PLUG BOARD

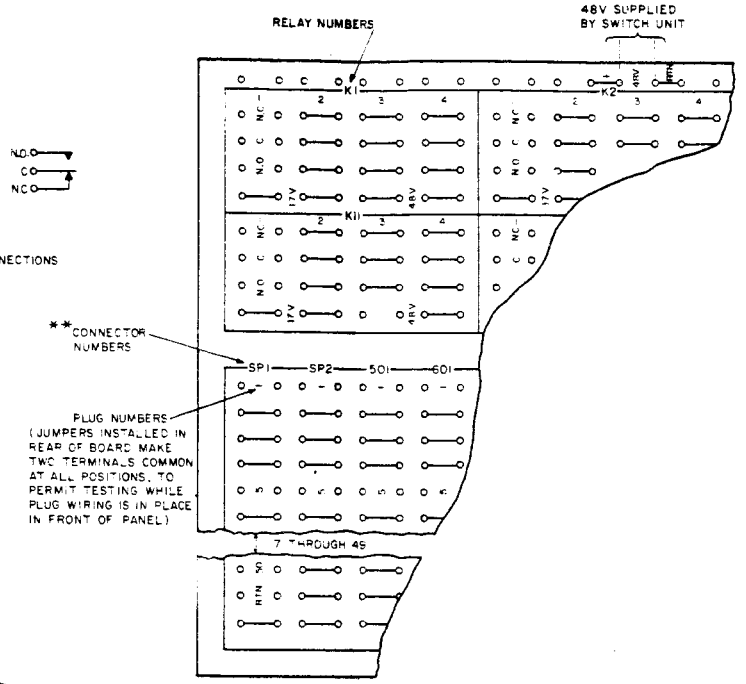
NUMBERING ON BACK OF PANEL

SEE CHART FOR ALPHABETIC NUMBERING ON BACK OF PANEL

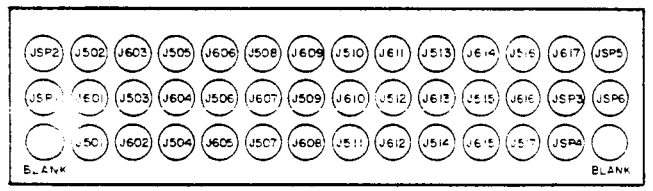


***RELAY TERMINAL LAYOUT
(WIRING SIDE OF CONNECTOR)

NOTE –
CODING FOR RELAY IS SAME AS PLUG BOARD

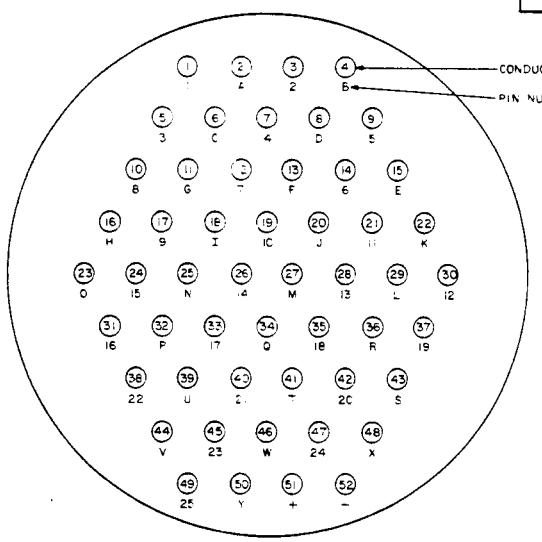


PLUGBOARD SECTION



FRONT VIEW
(CONNECTOR LOCATIONS, BOTTOM INSIDE)

WARNING – DUE TO CONNECTED EQUIPMENT, OTHER THAN NORMAL VOLTAGES MAY BE PRESENT AT ANY TIME.



CONNECTOR LAYOUT / CONDUCTOR NUMBERS
(SAME FOR ALL CONNECTORS)

* SEE CONDUCTOR COLOR CODE FOR COLOR OF EACH WIRE

** CONNECTOR NUMBERS SAME AS SHOWN IN FRONT VIEW. NUMBERS BELOW CONNECTOR NUMBERS ARE CONDUCTOR NUMBERS WHICH ARE WIRED TO THE RESPECTIVE CONNECTOR, WITH CONDUCTORS BEING WIRED TO PINS AS SHOWN IN CONNECTOR LAYOUT

*** RELAYS ARE WIRED TO BACK OF PLUG BOARD BY CONDUCTOR NUMBERS OR COLOR CODE AS SHOWN IN CHART AT UPPER RIGHT. THREE RELAYS ARE WIRED BY EACH CABLE EXCEPT FOR RELAYS 10 AND 20

CONDUCTOR COLOR CODE			
CONDUCTOR NUMBERS	BODY	FIRST TRACER	SECOND TRACER
1	BLACK	NONE	NONE
2	BROWN	↓	↓
3	RED		
4	ORANGE		
5	YELLOW		
6	GREEN		
7	BLUE		
8	VIOLET		
9	GRAY		
10	WHITE	↓	
11	↓	BLACK	
12		BROWN	
13		RED	
14		ORANGE	
15		YELLOW	
16		GREEN	
17		BLUE	
18		VIOLET	↓
19		GRAY	NONE
20		BLACK	BLACK
21		BROWN	BROWN
22		RED	RED
23		ORANGE	ORANGE
24		YELLOW	YELLOW
25		GREEN	GREEN
26		BLUE	BLUE
27		VIOLET	VIOLET
28		GRAY	GRAY
29		BLACK	BROWN
30		BLACK	RED
31		BLACK	ORANGE
32		BLACK	YELLOW
33		BLACK	GREEN
34		BLACK	BLUE
35		BLACK	VIOLET
36		BLACK	GRAY
37		BROWN	RED
38		BROWN	ORANGE
39		BROWN	YELLOW
40		BROWN	GREEN
41		BROWN	BLUE
42		BROWN	VIOLET
43		BROWN	GRAY
44		RED	ORANGE
45		RED	YELLOW
46		RED	GREEN
47		RED	BLUE
48		RED	VIOLET
49		RED	GRAY
50		ORANGE	YELLOW
51		ORANGE	GREEN
52		ORANGE	BLUE
53	WHITE	ORANGE	VIOLET

RELAY/PLUG BOARD CABLE CONNECTIONS								RELAY PIN/PLUG BOARD CONNECTIONS	
	CABLE NUMBERS 1	2	3	4	5	6	7	CONDUCTOR* NUMBERS	CONTACT NUMBERS
	K 1	K 4	K 7	K 11	K 14	K 17	K 10	1	NO-1
								2	C-1
								3	NC-1
								4	NO-2
								5	C-2
								6	NC-2
								7	NO-3
								8	C-3
								9	NC-3
								10	NO-4
								11	C-4
								12	NC-4
								13	17V
								14	48V
								15	48V RET
								16	17V RET
								17	NO-1
								18	C-1
								19	NC-1
								20	NO-2
								21	C-2
								22	NC-2
	K 2	K 5	K 8	K 12	K 15	K 18	K 20	23	NO-3
								24	C-3
								25	NC-3
								26	NO-4
								27	C-4
								28	NC-4
								29	17V
								30	48V
								31	48V RET
								32	17V RET
								33	NO-1
								34	C-1
								35	NC-1
								36	NO-2
								37	C-2
								38	NC-2
								39	NO-3
								40	C-3
								41	NC-3
								42	NO-4
								43	C-4
								44	NC-4
								45	17V
								46	48V
								47	48V RET
								48	
								49	
								50	
								51	
								52	
								53	

CONNECTOR PIN/CONDUCTOR CONNECTIONS		PLUG BOARD NUMBERS	
CONDUCTOR* NUMBERS	PIN NUMBERS	FRONT	BACK
1	1	1	M
2	A(b)	2	N
3	2	3	P
4	B(b)	4	R
5	3	5	S
6	C(c)	6	T
7	4	7	U
8	D(d)	8	V
9	5	9	W
10	8	10	X
11	G	11	Y
12	7	12	Z
13	F	13	AA
14	6	14	AB
15	E	15	AC
16	H	16	AD
17	9	17	AE
18	I	18	AF
19	10	19	AG
20	J	20	AH
21	11	21	AJ
22	K	22	A
23	O	23	B
24	15	24	C
25	N	25	D
26	14	26	E
27	M	27	F
28	13	28	G
29	L	29	H
30	12	30	J
31	16	31	K
32	P	32	L
33	17	33	M
34	Q	34	N
35	18	35	P
36	R	36	R
37	19	37	S
38	22(e)	38	T
39	U	39	U
40	21	40	V
41	T	41	W
42	20	42	X
43	S	43	Y
44	V	44	Z
45	23	45	AA
46	W	46	AB
47	24	47	AC
48	X	48	AD
49	25	49	AE
50	Y	50	AF
51	+(f)	RTN	AG
52	-45(g)		
53			

SPECIAL WIRING ON BACK PANEL

(a) J515 PIN A (BROWN WIRE) CONNECTED TO +48V 1A12 AND 13

(b) J515 PIN B (ORANGE WIRE) CONNECTED TO 48V RETURN 1A14 AND 15

(c) J515 PIN C (GREEN WIRE) PROVIDES +48V AT 2A 12 AND 13

(d) J515 PIN D (VIOLET WIRE) PROVIDES 48V RETURN AT 2A14 AND 15

(e) J517 PIN 22 (WHITE, BROWN AND ORANGE) PROVIDES -17V AT 1A 26 AND 27 WHICH IS JUMPERED TO 2A 26 AND 27

(f) J517 PIN + (WHITE, ORANGE AND GREEN) PROVIDES -17V RETURN AT 1A 28 AND 29 WHICH IS JUMPERED TO 2A 28 AND 29

(g) J517 PIN -45 (WHITE, ORANGE AND BLUE) PROVIDES RETURN FOR RETURN LINES AT BOTTOM OF PLUG BOARD

FIGURE 5-1. DIGITAL JUNCTION BOX COMPONENT LOCATION AND WIRING DATA

numbered 1 to 50, and two plug locations designated as return (RTN). The correlation of the plug locations with respect to the conductor/connector pins which are connected to these locations is provided in the charted data in figure 5-1. An explanation of this data follows.

The first portion of the chart provides a wire color code for each conductor in the cables connected to the plugboard.

The second portion of the chart lists the seven cables used to interconnect the relays with the plugboard. Below each cable number are the numbers of the relays which are wired by the respective cable; e.g., cable 1 connects relays K1, K2, and K3 to the plugboard; similarly, cables 2 through 6 connect three relays to the plugboard, and cable 7 connects two relays (10 and 20). Next to this information, conductor numbers are listed. (These numbers may be correlated with the color coding chart to determine the color of any of the wires.) These numbers are followed by relay contact designations which indicate where each conductor is connected; e.g., cable 1 connects relays 1, 2, and 3, the first conductor being connected to N.O.-1 (normally open contact 1), and the remaining relay contact designations for relay K1 being assigned to the first 16 conductors in the cable. Conductors 17 through 32 are connected to relay K2, and conductors 33 through 48 are wired to relay K3. This conductor/relay contact assignment is the same for all relays wired with cables 2 through 7, except that only two relays are connected by cable 7.

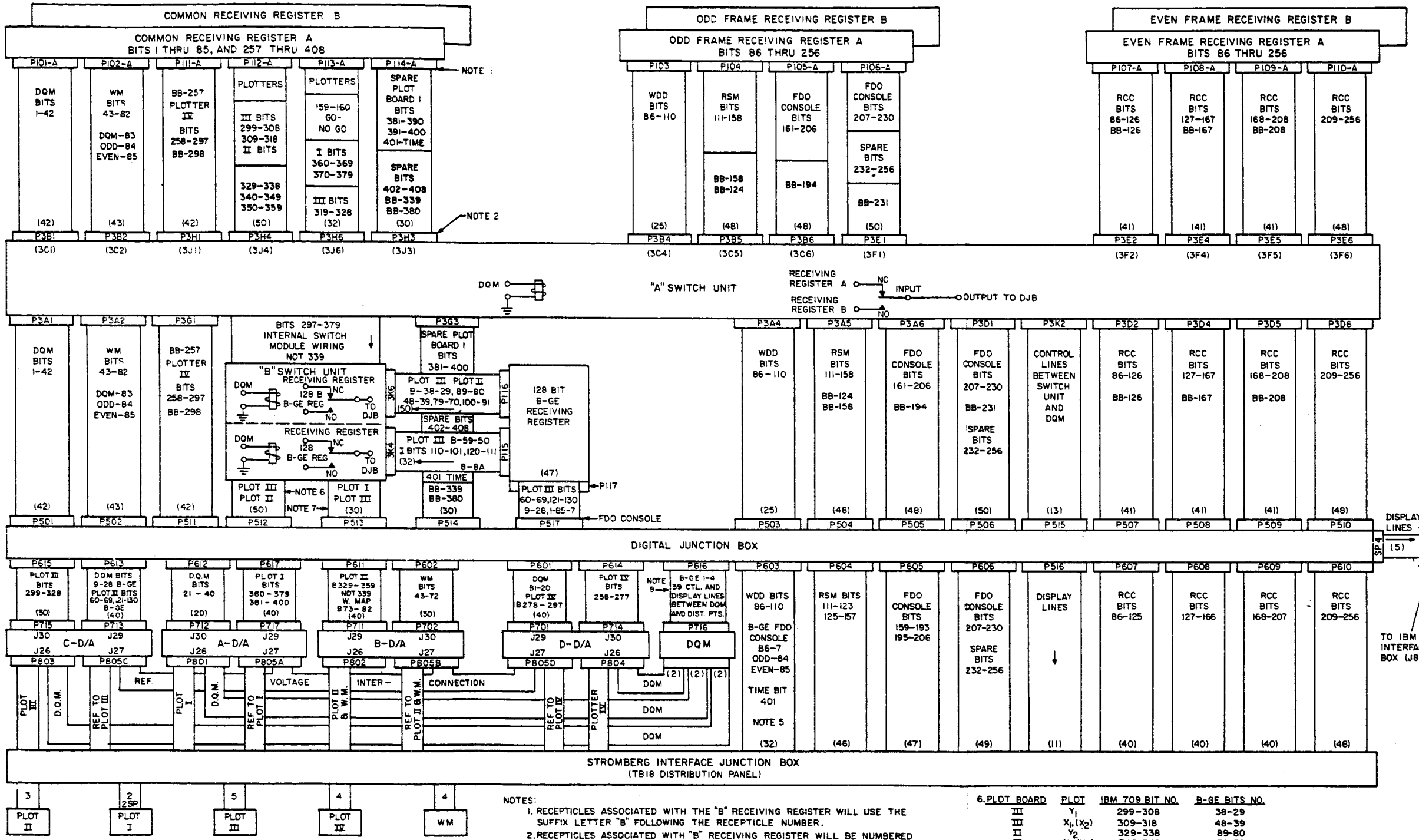
The remaining portion of the chart lists conductor numbers and corresponding connector pin designations, followed by the terminal or the panel designation for both the front and back of the panel, which would be connected by each conductor and its corresponding connector pin. These codings are the same for all cable connections between the connectors and the plugboards, with the exception of a few connections to connectors J517 and J515, for which special wiring information is provided in the form of notes. Figure 5-2 shows the cabling connections made to the Digital Junction Box.

5.2.2 Interface Junction Box

Figure 5-3 shows the component location designations of all connectors and terminal boards and also shows the permanent wiring.

The connectors are designated by physical location by the intersection of horizontal and vertical rows. The vertical rows are assigned numbers from 1 to 14; the four horizontal rows are designated A, B, C, and D. To find the number of any terminal board, it is necessary only to determine its vertical and horizontal locations; e.g., the fourth terminal board in the second vertical row would be designated 2D (2 for the second vertical row and D for the fourth horizontal row).

To the left of each connector, an arrow points to numerical and alphabetical designations. These designations indicate which terminal boards are connected by cable from the connectors. Alongside each terminal board which is called out will appear the connector designation and the connector pin numbers which are connected (by cable) to each terminal location on the terminal boards. For example, connector J3 connects to terminal boards 1A, 2B, and 6D. The connections to terminal board 1A come from pins 1 to F of J501; connections to terminal boards 2D and 6D are also shown coming from J501. Figure 5-4 shows the cabling connections made to the Interface Junction Box.



NOTES:

1. RECEPTICLES ASSOCIATED WITH THE "B" RECEIVING REGISTER WILL USE THE SUFFIX LETTER "B" FOLLOWING THE RECEPTICLE NUMBER.
2. RECEPTICLES ASSOCIATED WITH "B" RECEIVING REGISTER WILL BE NUMBERED P301 THRU P314 WITH SIMILAR BIT CONFIGURATION AS CABLE SERIES P201 THRU P214.
3. ALL NUMBERS IN ( ) IN CABLE REPRESENT NUMBER OF ACTIVE LINES IN STANDARD 50 LINE REITH-CABLE.
4. ALL INFORMATION FLOW FROM TOP OF PAGE TO BOTTOM OF PAGE OR AS INDICATED BY ARROWS.
5. TIME BIT ENTERS DIGITAL JUNCTION BOX FROM WHICH PLOTBOARDS I, II, III, IV AND DATA QUALITY MONITOR ARE FED.

ABBREVIATIONS

DJB - DIGITAL JUNCTION BOX
DQM - DATA QUALITY MONITOR
FDO - FLIGHT DYNAMICS OFFICER
RCC - RETRO CONTROL CONSOLE
RSM - RECOVERY STATUS MONITOR
WDD - WALL DIGITAL DISPLAY
WM - WALL MAP

6.

PLOT BOARD	PLOT	IBM 709 BIT NO.	B-GE BITS NO.
III	Y_1	299-308	38-29
III	$X_1(X_2)$	309-318	48-39
II	Y_2	329-338	89-80
II	$X_1(X_2)$	340-349	79-70
II	Y_1	350-359	100-91

7.

PLOT BOARD	PLOT	IBM 709 BIT NO.	B-GE BITS NO.
III	Y_2	319-328	59-50
I	X_1	370-379	120-111
I	Y_1	360-369	110-101
GO-NO GO RECCOMENDATION		159-160	7 & 8

LEAST SIGNIFICANT BIT IS SHOWN FIRST

8. EQUIPMENT JACKS ARE MARKED WITH THE PREFIX "J" WHICH CORRESPONDS TO CABLE RECEPTACLE "P" FOLLOWED BY THE CABLE NUMBER CORRESPONDING.
9. DATA SOURCES TO DQM ARE CONTACT CLOSURES ACTIVATED BY BITS 41, 42 AND 83 LOGICALLY DECODED IN DIGITAL JUNCTION BOX

FIGURE 5-2. SWITCHING AND INTERFACE CABLING REQUIREMENTS, CAPE CANAVERAL

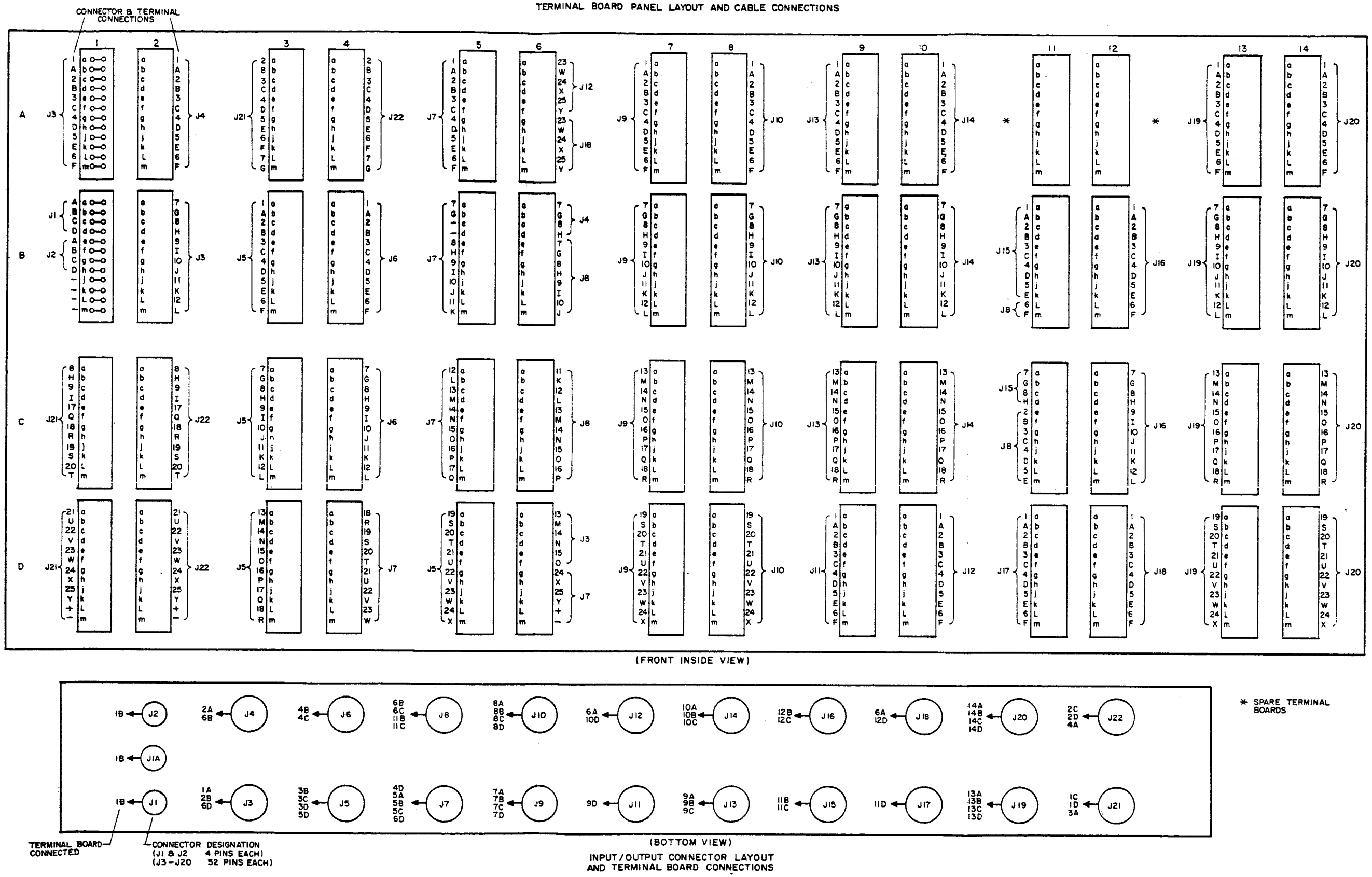


FIGURE 5-3. INTERFACE JUNCTION BOX COMPONENT LOCATION CODING AND CABLE WIRING

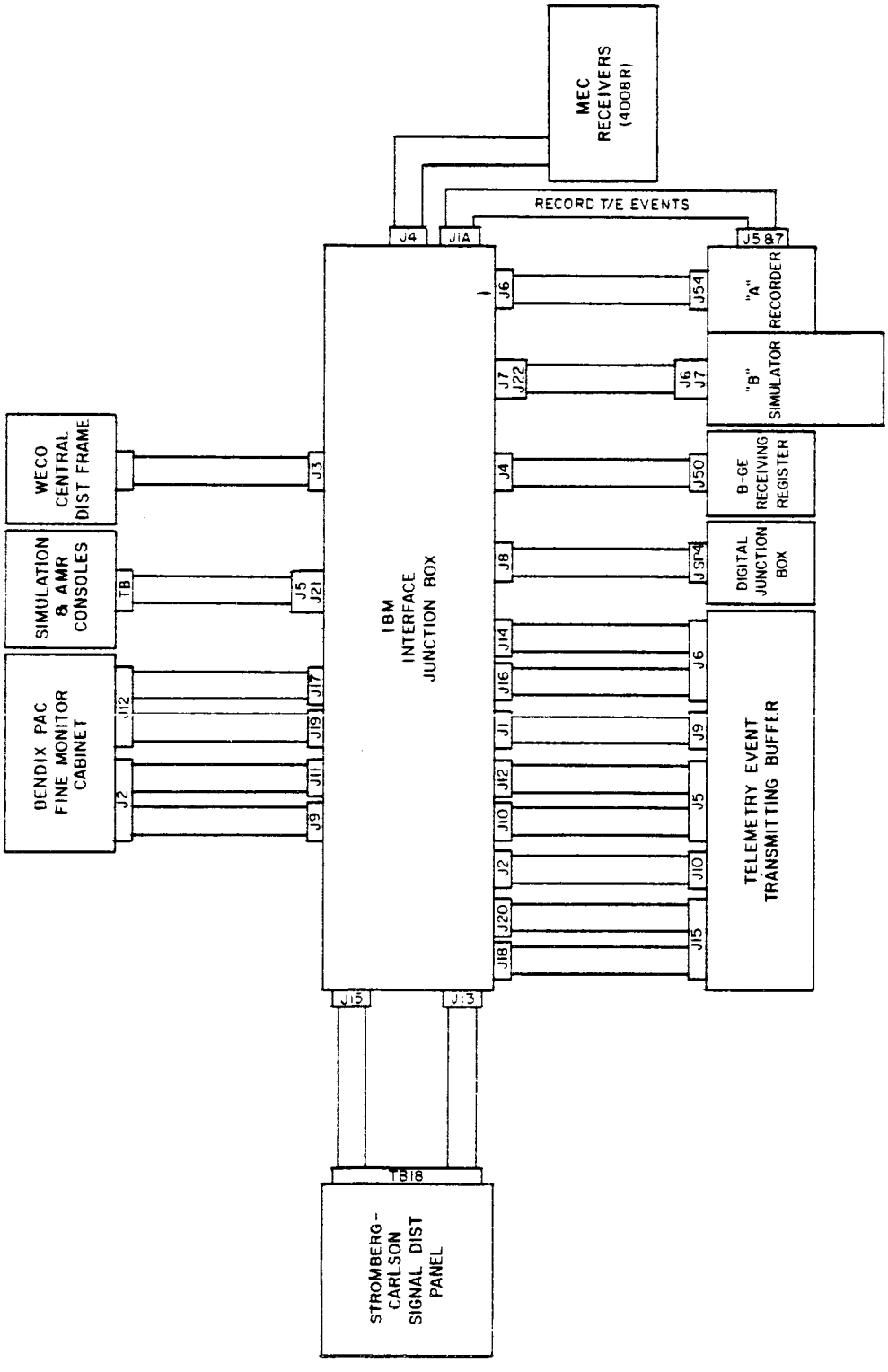


FIGURE 5-4. INTERFACE CABLING, CAPE CANAVERAL

5.3 TEST PROCEDURE

5.3.1 Digital Junction Box

5.3.1.1 Plugboard-Connector Pin Continuity Check

The plugboard-connector pin continuity check is performed by using a bottle plug to jumper two terminals on the plugboard and by checking the continuity between connector pins associated with the two terminals. This test is performed for all plugboard terminals which are common to connector pins.

Proceed as follows:

1. Remove external cables from connectors JSP1 through JSP6 and J501 through J617.

2. Insert bottle plug between plugboard jacks (fig. 5-5, Digital Junction Box plugboard notation) shown in table 5-1.

3. Measure resistance between pins as shown in table 5-1.

Note

Table 5-2 shows the relationship between connector pins and plugboard jacks.

5.3.1.2 Relay Test

The relay test checks the coil-energizing action and the continuity between the contacts of each relay. In order to energize a relay, it is necessary to connect either 17vdc or 48vdc, as shown in figure 5-6.

1. Measure resistance of relays between terminals shown in table 5-3. These readings are listed in the Relay De-energized column.

2. Connect 17vdc, as shown in figure 5-6, and measure resistance between contacts shown in table 5-3. The readings are listed in the Relay Energized 17VDC column.

3. Remove 17vdc connections and connect 48vdc as shown in figure 5-4. Measure resistance between indicated contacts. These readings are listed in the Relay Energized 48VDC column in table 5-3.

4. Remove all test connections.

5. Reconnect all external cables which were removed to perform plugboard and relay checks.

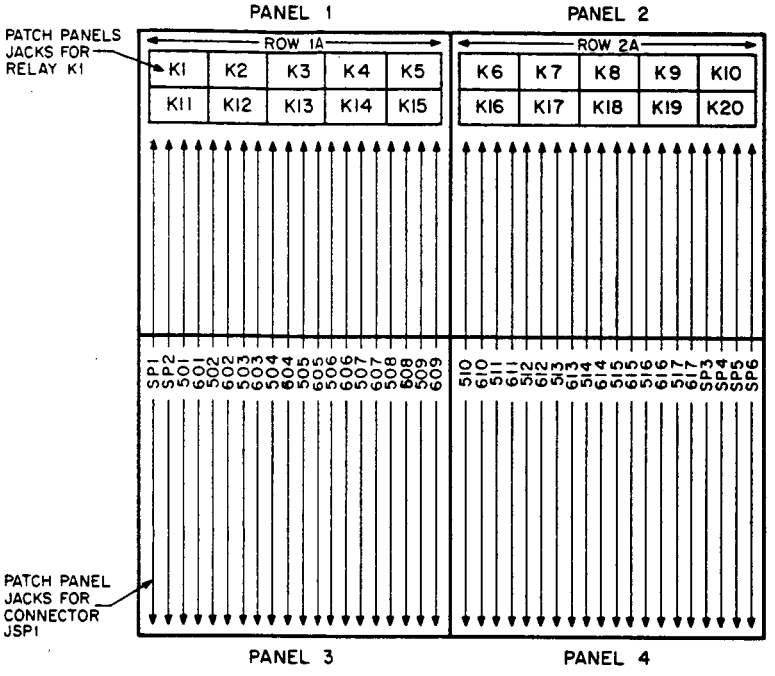
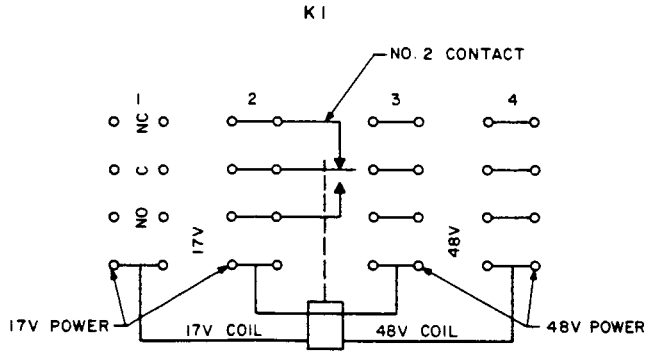


FIGURE 5-5. DIGITAL JUNCTION BOX, PLUGBOARD NOTATION



NOTE:
CONTACTS 1,3 AND 4 ARE WIRED THE SAME AS SHOWN FOR 2.

FIGURE 5-6. RELAY VOLTAGE CONNECTIONS TO ENERGIZE 17VDC AND 48VDC COILS

TABLE 5-1. PLUGBOARD-CONNECTOR PIN CONTINUITY CHECK

Plugboard Jacks		Connector Pins		Resistance Measurement
From	To	From	To	
SPI	SP2	JSPI	JSP2	All measurements should be less than 0.5 ohm.
501	601	J501	J601	
502	602	J502	J602	
503	603	J503	J603	
504	604	J504	J604	
505	605	J505	J605	
506	606	J506	J606	
507	607	J507	J607	
508	608	J508	J608	
509	609	J509	J609	
510	610	J510	J610	
511	611	J511	J611	
512	612	J512	J612	
513	613	J513	J613	
514	614	J514	J614	
515	615	J515	J615	
516	616	J516	J616	
517	617	J517	J617	
SP3	SP4	JSP3	JSP4	
SP5	SP6	JSP5	JSP6	

TABLE 5-2. CONNECTOR PIN-PLUGBOARD TERMINAL RELATIONSHIP

Connector Pin	Plugboard No.	Connector Pin	Plugboard No.
1	1	N	25
A (Note 1)	2	14	26
2	3	M	27
B (Note 2)	4	13	28
3	5	L	29
C (Note 3)	6	12	30
4	7	16	31
D (Note 4)	8	P	32
5	9	17	33
8	10	Q	34
G	11	18	35
7	12	R	36
F	13	19	37
6	14	22 (Note 5)	38
E	15	U	39
H	16	21	40
9	17	T	41
I	18	20	42
10	19	S	43
J	20	V	44
11	21	23	45
K	22	W	46
O	23	24	47
15	24	X	48

TABLE 5-2. CONNECTOR PIN-PLUGBOARD TERMINAL RELATIONSHIP (cont'd)

Connector Pin	Plugboard No.	Connector Pin	Plugboard No.
49	25		
50	Y		
RTN	± (Note 6) - (Note 7)		

Notes:

1. J515 pin A connected to +48v 1A12 and 1A13.
2. J515 pin B connected to 48v return 1A14 to 1A15.
3. J515 pin C connected to +48v 2A12 and 2A13.
4. J515 pin D connected to 48v return 2A14 and 2A15.
5. J517 pin 22 connected to -17v at 1A26 and 1A27 and 2A26 and 2A27.
6. J517 pin (+) connected to -17v return 1A28 and 1A29 and 2A28 and 2A29.
7. J517 pin (-) connected to return lines at bottom of board.

TABLE 5-3. RELAY CHECK

Terminal		Resistance Measurement (Ohms)		
From	To	Relay De-energized	Relay Energized 17VDC	Relay Energized 48VDC
1 C	1 N.C.	Less than 0.5	Greater than 10 MEG	Greater than 10 MEG
1 C	1 N.O.	Greater than 10 meg	Less than 0.5	Less than 0.5
2 C	2 N.C.	Less than 0.5	Greater than 10 meg	Greater than 10 meg
2 C	2 N.O.	Greater than 10 meg	Less than 0.5	Less than 0.5
3 C	3 N.C.	Less than 0.5	Greater than 10 meg	Greater than 10 meg
3 C	3 N.O.	Greater than 10 meg	Less than 0.5	Less than 0.5
4 C	4 N.C.	Less than 0.5	Greater than 10 meg	Greater than 10 meg
4 C	4 N.O.	Greater than 10 meg	Less than 0.5	Less than 0.5

5.3.2 Interface Junction Box

This test consists of a series of continuity checks between pins of the 18 connectors and terminals of the 56 terminal boards. In order to perform these checks, it is first necessary to remove all cables from connectors J1 through J22.

Note

It will be necessary to remove the lower panel skirt in order to remove the cables.

Table 5-4, which lists the connector pin and the terminal board terminals, provides the connection points between which the resistance measurements are to be made. The resistance will be less than 0.5 ohm.

When the continuity checks are complete, replace the plugs and the lower skirt panel which was removed to permit the check.

TABLE 5-4. CONNECTOR PIN - TERMINAL BOARD TERMINAL CONNECTIONS FOR INTERFACE JUNCTION BOX CONTINUITY CHECK

Conn Pin	TB Terminal	Conn Pin	TB Terminal	Conn Pin	TB Terminal
J1-A	1B-a	J3-9	2B-e	J4-6	2A-l
J1-B	1B-b	J3-I	2B-f	J4-F	2A-m
J1-C	1B-c	J3-10	2B-g	J4-7	6B-a
J1-D	1B-d	J3-J	2B-h	J4-G	6B-b
J2-A	1B-e	J3-11	2B-j	J4-8	6B-c
J2-B	1B-f	J3-K	2B-k	J4-H	6B-d
J2-C	1B-g	J3-12	2B-l	J5-1	3B-a
J2-D	1H-h	J3-L	2B-m	J5-A	3B-b
J3-1	1A-a	J3-13	6D-a	J5-2	3B-c
J3-A	1A-b	J3-M	6D-b	J5-B	3B-d
J3-2	1A-c	J3-14	6D-c	J5-3	3B-e
J3-B	1A-d	J3-N	6D-d	J5-C	3B-f
J3-3	1A-e	J3-15	6D-e	J5-4	3B-g
J3-C	1A-f	J3-0	6D-f	J5-D	3B-h

TABLE 5-4. CONNECTOR PIN - TERMINAL BOARD TERMINAL CONNECTIONS FOR INTERFACE JUNCTION BOX CONTINUITY CHECK (cont'd)

Conn Pin	TB Terminal	Conn Pin	TB Terminal	Conn Pin	TB Terminal
J3-4	1A-g	J4-1	2A-a	J5-5	3B-j
J3-D	1A-h	J4-A	2A-b	J5-E	3B-k
J3-5	1A-j	J4-2	2A-c	J5-6	3B-l
J3-E	1A-k	J4-B	2A-d	J5-F	3B-m
J3-6	1A-l	J4-3	2A-e	J5-7	3C-a
J3-F	1A-m	J4-C	2A-f	J5-G	3C-b
J3-7	2B-a	J4-4	2A-g	J5-8	3C-c
J3-G	2B-b	J4-D	2A-h	J5-H	3C-d
J3-8	2B-c	J4-5	JA-j	J5-9	3C-e
J3-H	2B-d	J4-E	2A-k	J5-I	3C-f
J5-10	3C-g	J5-22	5D-g	J6-10	4C-g
J5-J	3C-h	J5-V	5D-h	J6-J	4C-h
J5-11	3C-j	J5-23	5D-j	J6-11	4C-j
J5-K	3C-k	J5-W	5D-k	J6-K	4C-k
J5-12	3C-l	J5-24	5D-l	J6-12	4C-l
J5-L	3C-m	J5-X	5D-m	J6-L	4C-m
J5-13	3D-a	J6-1	4B-a	J7-1	5A-a
J5-M	3D-b	J6-A	4B-b	J7-A	5A-b
J5-14	3D-c	J6-2	4B-c	J7-2	5A-c
J5-N	3D-d	J6-B	4B-d	J7-B	5A-d
J5-15	3D-e	J6-3	4B-e	J7-3	5A-e
J5-O	3D-f	J6-C	4B-f	J7-C	5A-f
J5-16	3D-g	J6-4	4B-g	J7-4	5A-g
J5-P	3D-h	J6-D	4B-h	J7-D	5A-h

TABLE 5-4. CONNECTOR PIN - TERMINAL BOARD TERMINAL CONNECTIONS FOR INTERFACE JUNCTION BOX CONTINUITY CHECK (cont'd)

Conn Pin	TB Terminal	Conn Pin	TB Terminal	Conn Pin	TB Terminal
J5-17	3D-j	J6-5	4B-j	J7-5	5A-j
J5-Q	3D-k	J6-E	4B-k	J7-E	5A-k
J5-18	3K-l	J6-6	4B-l	J7-6	5A-1
J5-R	3D-m	J6-F	4B-m	J7-F	5A-m
J5-19	5D-a	J6-7	4C-a	J7-7	5B-a
J5-S	5D-b	J6-G	4C-b	J7-G	5B-b
J5-20	5D-c	J6-8	4C-c	J7-8	5B-e
J5-T	5D-d	J6-H	4C-d	J7-H	5B-f
J5-21	5D-e	J6-9	4C-e	J7-9	5B-g
J5-U	5D-f	J6-I	4C-f	J7-I	5B-h
J7-10	5B-j	J7-22	4D-j	J8-9	6B-j
J7-J	5B-k	J7-V	4D-k	J8-I	6B-k
J7-11	5B-l	J7-23	4D-l	J8-10	6B-l
J7-K	5B-m	J7-W	5D-m	J8-J	6B-m
J7-12	5C-a	J7-24	6D-g	J8-11	6C-a
J7-L	5C-b	J7-X	6D-h	J8-K	6C-b
J7-13	5C-c	J7-25	6D-j	J8-12	6C-c
J7-M	5C-d	J7-Y	6D-k	J8-L	6C-d
J7-14	5C-e	J7(+)	6D-l	J8-13	6C-e
J7-N	5C-f	J7(-)	6D-m	J8-M	6C-f
J7-15	5C-g	J8-2	11C-e	J8-14	6C-g
J7-O	5C-h	J8-B	11C-f	J8-N	6C-h
J7-16	5C-j	J8-3	11C-g	J8-15	6C-j
J7-P	5C-k	J8-C	11C-h	J8-O	6C-k

TABLE 5-4. CONNECTOR PIN - TERMINAL BOARD TERMINAL CONNECTIONS FOR INTERFACE JUNCTION BOX CONTINUITY CHECK (cont'd)

Conn Pin	TB Terminal	Conn Pin	TB Terminal	Conn Pin	TB Terminal
J7-17	5C-l	J8-4	11C-j	J8-16	6C-l
J7-Q	5C-m	J8-D	11C-k	J8-P	6C-m
J7-18	4D-a	J8-5	11C-l	J9-1	7A-a
J7-R	4D-b	J8-E	11C-m	J9-A	7A-b
J7-19	4D-c	J8-6	11B-l	J9-2	JA-c
J7-S	4D-d	J8-F	11B-m	J9-B	7A-d
J7-20	4D-e	J8-7	6B-e	J9-3	7A-e
J7-T	4D-f	J8-G	6B-f	J9-C	7A-f
J7-21	4D-g	J8-8	6B-g	J9-4	7A-g
J7-U	4D-h	J8-H	6B-h	J9-D	7A-h
J9-5	7A-j	J9-17	7C-j	J10-5	8A-j
J9-E	7A-k	J9-Q	7C-k	J10-E	8A-k
J9-6	7A-l	J9-18	JC-l	J10-6	8A-l
J9-F	7A-m	J9-R	7C-m	J10-F	8A-m
J9-7	7B-a	J9-19	7D-a	J10-7	8B-a
J9-G	7B-b	J9-S	7D-b	J10-G	8B-b
J9-8	7B-c	J9-20	7D-c	J10-8	8B-c
J9-H	7B-d	J9-T	7D-d	J10-H	8B-d
J9-9	7B-e	J9-21	7D-e	J10-9	8B-e
J9-I	7B-f	J9-U	7D-f	J10-I	8B-f
J9-10	7B-g	J9-22	7D-g	J10-10	8B-g
J9-J	7B-h	J9-V	7D-h	J10-J	8B-h
J9-11	7B-j	J9-23	7D-j	J10-11	8B-j
J9-K	7B-k	J9-W	7D-k	J10-K	8B-k

TABLE 5-4. CONNECTOR PIN - TERMINAL BOARD TERMINAL CONNECTIONS FOR INTERFACE JUNCTION BOX CONTINUITY CHECK (cont'd)

Conn Pin	TB Terminal	Conn Pin	TB Terminal	Conn Pin	TB Terminal
J9-12	7B-l	J9-24	7D-1	J10-12	8B-l
J9-L	7B-m	J9-X	7D-m	J10-L	8B-m
J9-13	7C-a	J10-1	8A-a	J10-13	8C-a
J9-M	7C-b	J10-A	8A-b	J10-M	8C-b
J9-14	JC-c	J10-2	8A-c	J10-14	8C-c
J9-N	7C-d	J10-B	8A-d	J10-N	8C-d
J9-15	7C-e	J10-3	8A-e	J10-15	8C-e
J9-O	7C-f	J10-C	8A-f	J10-O	8C-f
J9-16	7C-g	J10-4	8A-g	J10-16	8C-g
J9-P	7C-h	J10-D	8A-h	J10-P	8C-h
J10-17	8C-j	J11-5	9D-j	J13-2	9A-c
J10-Q	8C-k	J11-E	9D-k	J13-B	9A-d
J10-18	8C-l	J11-6	9D-1	J13-3	9A-e
J10-R	8C-m	J11-F	9D-m	J13-C	9A-f
J10-19	8D-a	J12-1	10D-a	J13-4	9A-g
J10-S	8D-b	J12-A	10D-b	J13-D	9A-h
J10-20	8D-c	J12-2	10D-c	J13-5	9A-j
J10-T	8D-d	J12-B	10D-d	J13-E	9A-k
J10-21	8D-e	J12-3	10D-e	J13-6	9A-l
J10-U	8D-f	J12-C	10D-f	J13-F	9A-m
J10-22	8D-g	J12-4	10D-g	J13-7	9B-a
J10-V	8D-h	J12-D	10D-h	J13-G	9B-b
J10-23	8D-j	J12-5	10D-j	J13-8	9B-c
J10-W	8D-k	J12-E	10D-k	J13-H	9B-d

TABLE 5-4. CONNECTOR PIN - TERMINAL BOARD TERMINAL CONNECTIONS FOR INTERFACE JUNCTION BOX CONTINUITY CHECK (cont'd)

Conn Pin	TB Terminal	Conn Pin	TB Terminal	Conn Pin	TB Terminal
J10-24	8D-l	J12-6	10D-l	J13-9	9B-e
J10-X	8D-m	J12-F	10D-m	J13-I	9B-f
J11-1	9D-a	J12-23	6A-a	J13-10	9B-g
J11-A	9D-b	J12-W	6A-b	J13-J	9B-h
J11-2	9D-c	J12-24	6A-c	J13-11	9B-j
J11-B	9D-d	J12-X	6A-d	J13-K	9B-k
J11-3	9D-e	J12-25	6A-e	J13-12	9B-l
J11-C	9D-f	J12-Y	6A -f	J13-L	9B-m
J11-4	9D-g	J13-1	9A-a	J13-13	9C-a
J11-D	9D-h	J13-A	9A-b	J13-M	9C-b
J13-14	9C-c	J14-8	10B-c	J15-2	11B-c
J13-N	9C-d	J14-H	10B-d	J15-B	11B-d
J13-15	9C-e	J14-9	10B-e	J15-3	11B-e
J13-O	9C-f	J14-I	10B-f	J15-C	11B-f
J13-16	9C-g	J14-10	10B-g	J15-4	11B-g
J13-P	9C-h	J14-J	10B-h	J15-D	11B-h
J13-17	9C-j	J14-11	10B-j	J15-5	11B-j
J13-Q	9C-k	J14-K	10B-k	J15-E	11B-k
J13-18	9C-l	J14-12	10B-l	J15-7	11C-a
J13-R	9C-m	J14-L	10B-m	J15-G	11C-b
J14-1	10A-a	J14-13	10C-a	J15-8	11C-c
J14-A	10A-b	J14-M	10C-b	J15-H	11C-d
J14-2	10A-c	J14-14	10C-c	J16-1	12B-a
J14-B	10A-d	J14-N	10C-d	J16-A	12B-b

TABLE 5-4. CONNECTOR PIN - TERMINAL BOARD TERMINAL CONNECTIONS FOR INTERFACE JUNCTION BOX CONTINUITY CHECK (cont'd)

Conn Pin	TB Terminal	Conn Pin	TB Terminal	Conn Pin	TB Terminal
J14-3	10A-e	J14-15	10C-e	J16-2	12B-c
J14-C	10A-f	J14-O	10C-f	J16-B	12B-d
J14-4	10A-g	J14-16	10C-g	J16-3	12B-e
J14-D	10A-h	J14-P	10C-h	J16-C	12B-f
J14-5	10A-j	J14-17	10C-j	J16-4	12B-g
J14-E	10A-k	J14-Q	10C-k	J16-D	12B-h
J14-6	10A-l	J14-18	10C-l	J16-5	12B-j
J14-F	10A-m	J14-R	10C-m	J16-E	12B-k
J14-7	10B-a	J15-1	11B-a	J16-6	12B-l
J14-G	10B-b	J15-A	11B-b	J16-F	12B-m
J16-7	12C-a	J18-1	12D-a	J19-4	13A-g
J16-G	12C-b	J18-A	12D-b	J19-D	13A-h
J16-8	12C-c	J18-2	12D-c	J19-5	13A-j
J16-H	12C-d	J18-B	12D-d	J19-E	13A-k
J16-9	12C-e	J18-3	12D-e	J19-6	13A-l
J16-I	12C-f	J18-C	12D-f	J19-F	13A-m
J16-10	12C-g	J18-4	12D-g	J19-7	13B-a
J16-J	12C-h	J18-D	12D-h	J19-G	13B-b
J16-11	12C-j	J18-5	12D-j	J19-8	13B-c
J16-K	12C-k	J18-E	12D-k	J19-H	13B-d
J16-12	12C-l	J18-6	12D-l	J19-9	13B-e
J16-L	12C-m	J18-F	12D-m	J19-I	13B-f
J17-1	11D-a	J18-23	6A-g	J19-10	13B-g
J17-A	11D-b	J18-W	6A-h	J19-J	13B-h

TABLE 5-4. CONNECTOR PIN - TERMINAL BOARD TERMINAL CONNECTIONS FOR INTERFACE JUNCTION BOX CONTINUITY CHECK (cont'd)

Conn Pin	TB Terminal	Conn Pin	TB Terminal	Conn Pin	TB Terminal
J17-2	11D-c	J18-24	6A-j	J19-11	13B-j
J17-B	11D-d	J18-X	6A-k	J19-K	13B-k
J17-3	11D-e	J18-25	6A-l	J19-12	13B-l
J17-C	11D-f	J18-Y	6A-m	J19-L	13B-m
J17-4	11D-g	J19-1	13A-a	J19-13	13C-a
J17-D	11D-h	J19-A	13A-b	J19-M	13C-b
J17-5	11D-j	J19-2	13A-c	J19-14	13C-c
J17-E	11D-k	J19-B	13A-d	J19-N	13C-d
J17-6	11D-l	J19-3	13A-e	J19-15	13C-e
J17-F	11D-m	J19-C	13A-f	J19-O	13C-f
J19-16	13C-g	J20-4	14A-g	J20-16	14C-g
J19-P	13C-h	J20-D	14A-h	J20-P	14C-h
J19-17	13C-j	J20-5	14A-j	J20-17	14C-j
J19-Q	13C-k	J20-E	14A-k	J20-Q	14C-k
J19-18	13C-l	J20-6	14A-l	J20-18	14C-l
J19-R	13C-m	J20-F	14A-m	J20-R	14C-m
J19-19	13D-a	J20-7	14B-a	J20-19	14D-a
J19-S	13D-b	J20-G	14B-b	J20-S	14D-b
J19-20	13D-c	J20-8	14B-c	J20-20	14D-c
J19-T	13D-d	J20-H	14B-d	J20-T	14D-d
J19-21	13D-e	J20-9	14B-e	J20-21	14D-e
J19-U	13D-f	J20-I	14B-f	J20-U	14D-f
J19-22	13D-g	J20-10	14B-g	J20-22	14D-g
J19-V	13D-h	J20-J	14B-h	J20-V	14D-h

TABLE 5-4. CONNECTOR PIN - TERMINAL BOARD TERMINAL CONNECTIONS FOR INTERFACE JUNCTION BOX CONTINUITY CHECK (cont'd)

Conn Pin	TB Terminal	Conn Pin	TB Terminal	Conn Pin	TB Terminal
J19-23	13D-j	J20-11	14B-j	J20-23	14D-j
J19-W	13D-k	J20-K	14B-k	J20-W	14D-k
J19-24	13D-l	J20-12	14B-l	J20-24	14D-l
J19-X	13D-m	J20-L	14B-m	J20-X	14D-m
J20-1	14A-a	J20-13	14C-a		
J20-A	14A-b	J20-M	14C-b		
J20-2	14A-c	J20-14	14C-c		
J20-B	14A-d	J20-N	14C-d		
J20-3	14A-e	J20-15	14C-e		
J20-C	14A-f	J20-O	14C-f		

CHAPTER 6

ILLUSTRATED PARTS BREAKDOWN

SECTION 1

INTRODUCTION

1.1 GENERAL

The replaceable assemblies, subassemblies, and detail parts of the Digital Junction Box and Interface Junction Box are listed and illustrated in this chapter. These units are manufactured by the International Business Machines Corporation, Federal Systems Division, Kingston, New York.

1.2 PURPOSE AND USE

The Illustrated Parts Breakdown is used to obtain replacement parts and subassemblies for the junction boxes. An exploded view shows the disassembly of the junction boxes. The Group Assembly Parts List (Sect. 2) provides a listing of each part (keyed to index numbers on the exploded view) by part number, description, and the quantity used for each assembly.

To procure any part on the list with a part number, 562-xxxx, refer to the overall unit assembly drawing.

SECTION 2

GROUP ASSEMBLY PARTS LIST

List and Index No.	Part No.	Description	Units Per Ass'y
		DIGITAL JUNCTION BOX	
1-	5203389	Digital Junction Box Assembly (See fig. 6-1 for Illustration.)	REF
-1	3019733	Catch Door	4
-2	3000695	Screw, Round Hd, 6-32 x 3/8	8
-3	3208150	Washer, Flat, No. 6	16
-4	3513024	Nut, Self-Lock, 6-32	8
-5	562-1161	Door, Left	1
-6	3127482	Ground Strap	4
-7	3513878	Screw, Hex. Hd, 8-32 x 3/8	3
-8	3208112	Washer, Flat, No. 8	4
-9	3208148	Nut, Self-Lock, 8-32	2
-10	562-1165	Hinge, Front	2
-11	562-1251	Cable Clamp	1
-12	562-1250	Cable Rest	1
-13	562-1249	Hinge	1
-14	562-1248	Relay Rack	1
-15	3638732	Mtg Fixture	2
-16	3513862	Hex. Sltd Hd Screw, 8-32 x 1/2	7
-17	3208108	Washer, Lock, No. 8	7

List and Index No.	Part No.	Description	Units Per Ass'y
1-18	3208112	Washer, Flat, No. 8	7
-19	3513862	Hex. Sltd Hd Screw, 8-32 x 1/2	16
-20	3208108	Washer, Lock, No. 8	16
-21	3208112	Washer, Flat, No. 8	16
-22	562-1252	Chassis Support	1
-23	562-1258	Bracket, Chassis Support	1
-24	3511623	Hex. Sltd Hd Screw, 5/16 - 18 x 1	6
-25	3514419	Washer, Plain, 5/16	10
-26	3212914	Nut, Self-Lock, 5/16 - 18	4
-27	719005P	Relay	20
-28	344599P	Socket Relay	20
-29	3004126	Clip, Relay Socket	20
-30	3004315	Clip, Relay Socket (Bot)	4
-31	3513919	Screw, Hex. Hd, 4-40 x 1/2	80
-32	3208377	Washer, Plain, No. 4	80
-33	3511280	Screw, Hex. Head, 6-32 x 9/16	26
-34	3208150	Washer, Flat, No. 6	52
-35	3513024	Nut, Std Self-Lock, 6-32	26
-36	562-1144	Cover, Rear	1
-37	3513858	Screw, Hex. Head, 1/4 - 20 x 3/4	4
-38	3511623	Screw, Hex. Head, 5/16 - 18 x 1	2
-39	3514082	Washer, Lock, 5/16	2
-40	562-1146	Cover, Top	1
-41	562-1141	Frame Assembly	1

List and Index No.	Part No.	Description	Units Per Ass'y
1-42	562-1145	Cover, Side	2
-43	3664718	Plugboard Assembly	1
-44	3513862	Screw, Hex. Hd, 8-32 x 1/2	10
-45	3208108	Washer, Lock, No. 8	10
-46	3208112	Washer, Flat, No. 8	10
-47	562-1148	Stay Brace	2
-48	562-1147	Stay Brace	2
-49	562-1282	Bar Clamp Support	1
-50	562-1283	Clamp, Long	1
-51	562-1284	Clamp, Short	1
-52	3513848	Screw, Hex. Hd, 10-32 x 1	9
-53	3648548	Standoff	4
-54	562-1149	Bracket, Door Latch	4
-55	3513813	Screw, Flat Hd, 6-32 x 3/8	8
-56	3019732	Strike, Door	4
-57	3000695	Screw, Round Hd, 6-32 x 3/8	8
-58	3208072	Washer, Lock, No, 6	8
-59	3085007	Ground Stud	1
-60	3097450	Washer, Plain	13
-61	3513027	Nut, Self-Lock, 1/4 - 20	5
-62	3208078	Nut, Plain, 1/4 - 20	1
-63	562-1143	Support, Conn Panel	13
-64	3095385	Clamp, Cable	52
-65	562-1142	Plate, Bottom	1

List and Index No.	Part No.	Description	Units Per Ass'y
1-66	97-3102A 36-404P	Connector Receptacle	42
-67	3513862	Screw, Hex. Hd, 8-32 x 1/2	168
-68	3208112	Washer, Flat, No. 8	168
-69	3208148	Nut, Self-Lock, 8-32	168
-70	3513900	Screw, Hex. Hd, 6-32 x 3/4	2
-71	3208150	Washer, Flat, No. 6	4
-72	3208072	Washer, Lock, No. 6	2
-73	3513024	Nut, Self-Lock, No. 6-32	2
-74	3511280	Screw, Hex. Sltd Hd, 6-32 x 9/16	12
-75	3208150	Washer, Flat, No. 6	24
-76	3513024	Nut, Self-Lock, 6-32	12
-77	219051E	Plugboard	4
-78	219082E (modified)	Control Panel, Removable	1
-79	562-1160	Door, Right	1
-80	562-1164	Skirt, Bottom	1
-81	3503806	Plug	2120
-82	3503808	Jumper	560
		INTERFACE JUNCTION BOX	
2-	5203387	Interface Junction Box, Assembly (See fig. 6-2 for Illustration.)	REF
-1	3513863	Screw 8-32 x 5/8	80
-2	3208112	Washer, Flat, No. 8	160
-3	3513022	Nut, Lock, No. 8	18

List and Index No.	Part No.	Description	Units Per Ass'y
2-4	3513919	Screw, 4-40 x 1/2	8
-5	3208377	Washer, Flat, No. 4	16
-6	3513034	Nut, Lock, No. 4	8
-7	562-1305	Cover, Front	1
-8	3513857	Screw, 10-32 x 1/2	8
-9	3000844	Washer, Lock, No. 10	8
-10	3097186	Washer, Flat, No. 10	8
-11	3003878	Lock	2
-12	562-1307	Pawl	2
-13	562-1345	Plate Identification	1
-14	562-1240	Frame	1
-15	3512655	Receptacle, Camlock	8
-16	3513512	Rivet	16
-17	562-1304	Jumper, Ground	Assy
-18	3513858	Screw	1
-19	3208324	Washer, Lock, 1/4	1
-20	562-1245	Cover, Side	2
-21	3207066	Grommet	8
-22	3512654	Stud, Camlock	8
-23	3212981	Snap, Ring	8
-24	562-1268	Support	4
-25	562-1242	Plate, Mounting	1
-26	3513858	Screw, 1/4-20 x 3/4	10
-27	3097450	Washer, Flat, 1/4	20

List and Index No.	Part No.	Description	Units Per Ass'y
2-28	3513027	Nut, Lock, 1/4-20	10
-29	562-1356	Marker Strip, 12-Pos	56
-30	562-1357	Barrier Strip, 12-Pos	56
-31	3513855	Screw, 6-32 x 1/2	224
-32	3208322	Washer, Lock, No. 6	224
-33	3208073	Washer, Flat, No. 6	224
-34	562-1274	Jumper Assembly	Assy
-35	562-1269	Panel, Conn	1
-36	562-1306	Skirt, Front Panel	1
-37	3513854	Screw, 10-32 x 5/8	18
-38	3097186	Washer, Flat, No. 10	36
-39	3513021	Nut, Lock, 10-32	18

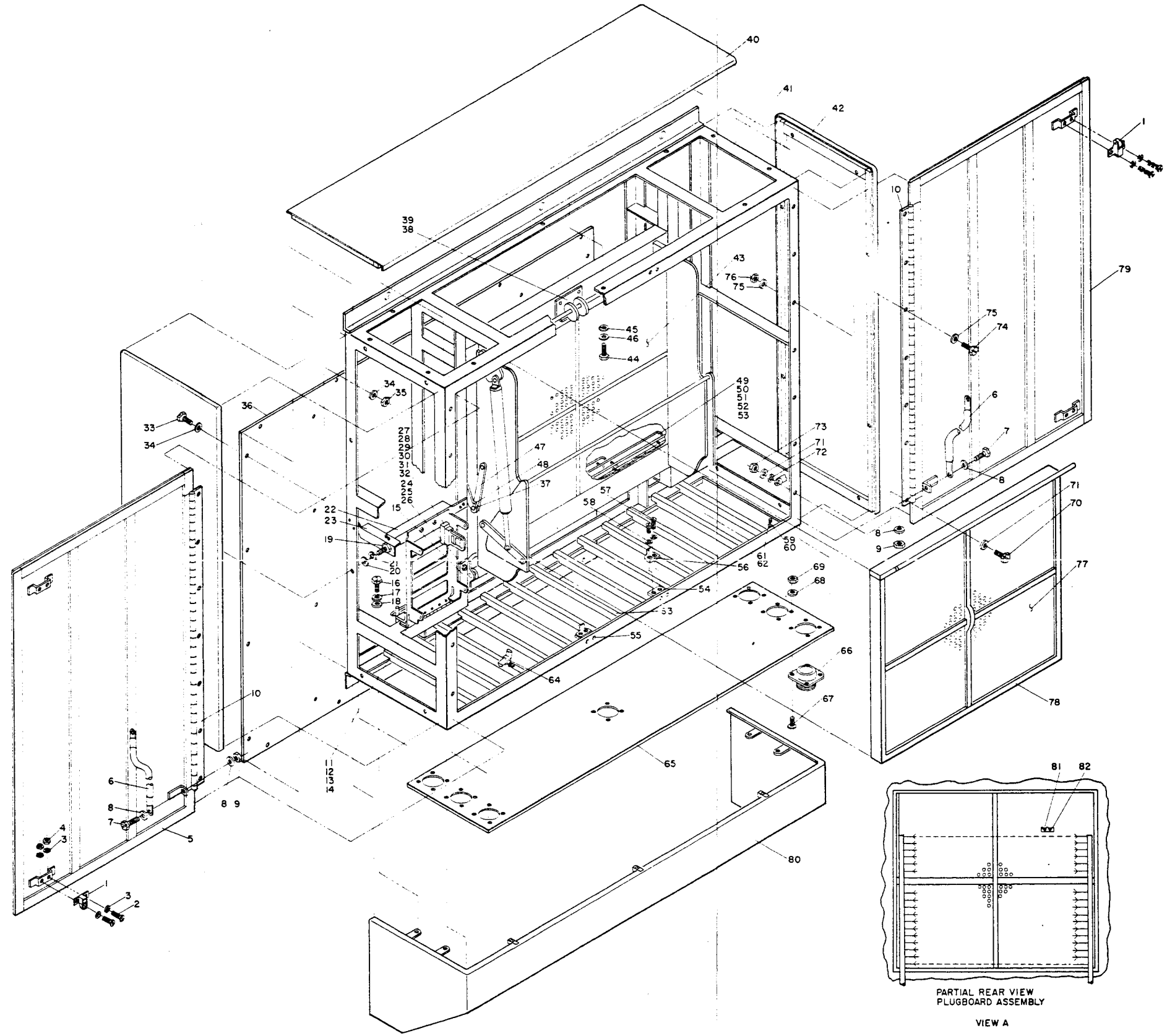


FIGURE 6-1. DIGITAL JUNCTION BOX, EXPLODED VIEW

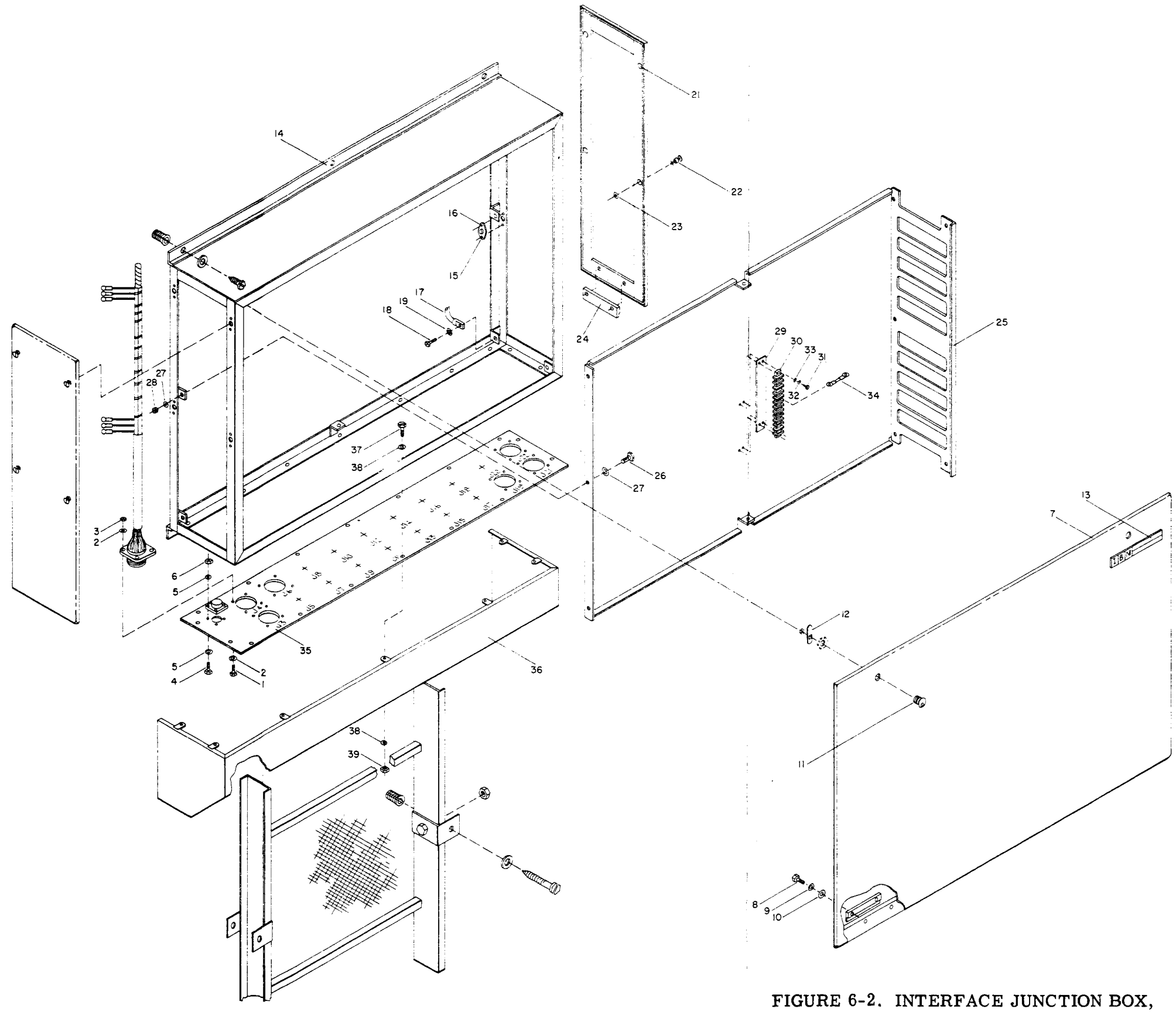


FIGURE 6-2. INTERFACE JUNCTION BOX, EXPLODED VIEW

APPENDIX A

CONNECTIONS TO AND FROM DIGITAL JUNCTION BOX

CONNECTOR INDEX, DIGITAL JUNCTION BOX

PIN	BIT	SOURCES: OUTPUTS A-REG.	SOURCES: OUTPUTS B-REG.	SOURCES: B-GE REG. BIT	SOURCES: B-GE REG. OUTPUT	SWITCH UNIT: INPUT A-REG.	SWITCH UNIT: INPUT B-REG.	SWITCH UNIT: INPUT B-GE	SWITCH UNIT: OUTPUT	DIGITAL JUNCTION: CONNECTOR IN P.B. PIN	DIGITAL JUNCTION: CONNECTOR PLUGBOARD PATCH	DIGITAL JUNCTION: CONNECTOR OUT P.B. PIN	D/A CONVERTER: UNIT	D/A CONVERTER: CONNECTOR DIGITAL INPUT	D/A CONVERTER: CONNECTOR ANALOG OUTPUT	I.B.M INTRFACE JUNC. BOX CONN.	STROMBERG INTRFACE JUNC. BOX TB-18	DISPLAY UNITS: UNIT	DISPLAY UNITS: INPUT	REMARKS
1	1	J101A	J101B			3B1	3C1		3A1	501-1	Direct Connection	601-1	D	J701-1	J804-L	(Chan 1)		DQM	J718-K	Analog to DQM
A	2									-2		-2		-A						Channel 2
2	3									-3		-3		-2						
B	4									-4		-4		-B				DQM	J718-P	H.Q. DQM RTN to
3	5									-5		-5		-3	J804-R,S					H.Q. Bus
C	6									-6		-6		-C			30-13-03			H.Q. SIG RTN
4	7									-7		-7		-4	J27-B					
D	8									-8		-8		-D			30-13-04			+35V REF
5	9									-9		-9		-5	J27-I					
E	10	J101A	J101B			3B1	3C1		3A1	501-15	Direct Connection	601-15	D	J701-E			30-13-05			H.Q. REF RTN
6	11	J101A	J101B			3B1	3C1		3A1	501-14	Direct Connection	601-14	D	J701-6	J804-A	(Chan 2)		DQM	J718-L	Analog to DQM
F	12									-13		-13		-F						Channel - 4
7	13									-12		-12		-7						
G	14									-11		-11		-G						
8	15									-10		-10		-8						
H	16									-16		-16		-H						
9	17									-17		-17		-9						
I	18									-18		-18		-I						
10	19									-19		-19		-10						
J	20	J101A	J101B			3B1	3C1		3A1	501-20	Direct Connection	601-20	D	J701-J						
11	21	J101A	J101B			3B1	3C1		3A1	501-21	612-1 511-32	601-21	D	J701-11	J804-J	(Chan 3)	30-13-02	Plot IV		Analog to Plot IV
K	22									-22	-2 -33	-22		-K						X1
12	23									-30	-3 -34	-30		-12						
L	24									-29	-4 -35	-29		-L						
13	25									-28	-5 -36	-28		-13						
M	26									-27	-6 -37	-27		-M						
14	27									-26	-7 -43	-26		-14						
N	28									-25	-8 -42	-25		-N						
15	29									-24	-9 -41	-24		-15						
O	30	J101A	J101B			3B1	3C1		3A1	501-23	612-15 511-40	601-23	D	J701-O						
16	31	J101A	J101B			3B1	3C1		3A1	501-31	612-14 511-22	601-31	D	J701-16	J804-V	(Chan 4)	30-13-01	Plot IV		Analog to Plot IV
P	32									-32	-13 -30	-32		-P						Y1
17	33									-33	-12 -29	-33		-17						
Q	34									-34	-11 -28	-34		-Q						
18	35									-35	-10 -27	-35		-18						
R	36									-36	-16 -26	-36		-R						
19	37									-37	-17 -25	-37		-19						
S	38									-43	-18 -24	-43		-S						
20	39									-42	-19 -23	-42		-20						
T	40	J101A	J101B			3B1	3C1		3A1	501-41	612-20 511-31	601-41	D	J701-T						
21	41	J101A	J101B			3B1	3C1		3A1	501-40	K1-1 Not Conn.	601-40	D	J701-21						
U	42									-39	K2-1	-39		-U						
22	Spare									-38	Not Conn.	-38		-22						
V										-44		-44		-V						
23										-45		-45		-23						
W	Spare									-46	Not Conn.	-46		-W						
24	Note A Pg. 13			Hold Trigger		Input				-47	Note B Pg. 13	-47		-24						
X	Spare									-48	Not Conn.	-48		-X						
25	Spare									-49	Not Conn.	-49		-25						
Y	Spare									-50	Not Conn. Not Conn.	-50		-Y						
+	Shield									-RTN	Bus Bus	-RTN		+						
-	Shield	J101A	J101B			3B1	3C1		3A1	501-RTN	Bus Bus	601-RTN	D	J701 -						

PIN	SOURCES					SWITCH UNIT				DIGITAL JUNCTION			D/A CONVERTER			I.B.M INTRFACE JUNC. BOX	STROM-BERG INTRFACE	DISPLAY UNITS		REMARKS
	BIT	OUTPUTS		B-GE REG.		INPUT			OUTPUT	IN ____ CONNECTOR OUT ____			UNIT	CONNECTOR						
		A-REG.	B-REG.	BIT	OUTPUT	A-REG.	B-REG.	B-GE		P.B. PIN	PLUGBOARD PATCH	P.B. PIN		DIGITAL INPUT	ANALOG OUTPUT	CONN. ___	JUNC. BOX TB-18	UNIT	INPUT	
1	43	J102A	J102B			3B2	3C2		3A2	502-1	Direct Connection	602-1	B	J702-1	J802-C	(Chan 5)	28-02-06	Wall map		Analog to wall map Cap. Pos. Lat.
A	44									-2		-2		-A						
2	45									-3		-3		-2						
B	46									-4		-4		-B						
3	47									-5		-5		-3						
C	48									-6		-6		-C						
4	49									-7		-7		-4						
D	50									-8		-8		-D						
5	51									49		-9		-5						
E	52	J102A	J102B			3B2	3C2		3A2	502-15	Direct Connection	602-15	B	J702-E						
6	53	J102A	J102B			3B2	3C2		3A2	502-14	611-31 502-31	602-14	B	J702-6	J802-G	(Chan 6)	28-03-05	Wall map		Analog to wall map IP - Long.
F	54									-13	-32 -32	-13		-F						
7	55									-12	-33 -33	-12		-7						
G	56									-11	-34 -34	-11		-G						
8	57									-10	-35 -35	-10		-8						
H	58									-16	-36 -36	-16		-H						
9	59									-17	-37 -37	-17		-9						
I	60									-18	-43 -43	-18		-I						
10	61									-19	-42 -42	-19		-10						
J	62	J102A	J102B			3B2	3C2		3A2	502-20	611-41 502-41	602-20	B	J702-J						
11	63	J102A	J102B			3B2	3C2		3A2	502-21	Direct Connection	602-21	B	J702-11	J802-E	(Chan 7)	28-03-02	Wall map		Analog to wall map IP Lat.
K	64									-22		-22		-K						
12	65									-30		-30		-12						
L	66									-29		-29		-L						
13	67									-28		-28		-13						
M	68									-27		-27		-M						
14	69									-26		-26		-14						
N	70									-25		-25		-N						
15	71									-24		-24		-15						
O	72	J102A	J102B			3B2	3C2		3A2	502-23	Direct Connection	602-23	B	J702-O						
16	73	J102A	J102B			3B2	3C2		3A2	502-31	602-14 Not Conn.	602-31	B	J702-16						
P	74									-32	-13	-32		-P						
17	75									-33	-12	-33		-17						
Q	76									-34	-11	-34		-Q						
18	77									-35	-10	-35		-18						
R	78									-36	-16	-36		-R						
19	79									-37	-17	-37		-19						
S	80									-43	-18	-43		-S						
20	81									-42	-19	-42		-20						
T	82	J102A	J102B			3B2	3C2		3A2	502-41	602-20 Not Conn.	602-41	B	J702-T						
21	83	J102A	J102B			3B2	3C2		3A2	502-40	K3-1 Not Conn.	602-40	B	J702-21						
U	84									-39	Not Conn.	-39		-U						Bit 84 - odd frame indication
22	85									-38		-38		-22						Bit 85 - even frame indication
V	Spare									-44		-44		-V						
23										-45		-45		-23						
W										-46		-46		-W						
24										-47		-47		-24						
X										-48		-48		-X						
25										-49	Not Conn.	-49		-25						
Y	Spare									-50	Not Conn. Note B-P13	-50		-Y						Hold trigger line
+	Shield									-RTN	Bus Bus	-RTN		+						
-	Shield	J102A	J102B			3B2	3C2		3A2	502-RTN	Bus Bus	602-RTN	B	J702- -						

PIN	SOURCES BIT	SOURCES OUTPUTS A-REG.	SOURCES OUTPUTS B-REG.	B-GE REG. BIT	B-GE REG. OUTPUT	SWITCH UNIT INPUT A-REG.	SWITCH UNIT INPUT B-REG.	SWITCH UNIT INPUT B-GE	SWITCH UNIT OUTPUT	DIGITAL JUNCTION CONNECTOR IN J104 P.B. PIN	DIGITAL JUNCTION CONNECTOR PLUGBOARD PATCH	DIGITAL JUNCTION CONNECTOR OUT J603 P.B. PIN	D/A CONVERTER UNIT	D/A CONVERTER CONNECTOR DIGITAL INPUT	D/A CONVERTER CONNECTOR ANALOG OUTPUT	I.B.M INTRFACE JUNC. BOX CONN.	STROMBERG INTRFACE JUNC. BOX T. B. 16	DISPLAY UNITS UNIT	DISPLAY UNITS INPUT	REMARKS
		ODD FRAME															20-Row-Term			
1	86	J103A	J103B			3B4	3C4		3A4	623 - 1	Direct Connection	603 - 1					18-05-03	Wall D.D.		
A	87									2		2					18-05-05			
2	88									3		3					18-05-07			
B	89									4		4					18-05-09			
3	90									5		5					18-06-01			
C	91									6		6					18-06-03			
4	92									7		7					18-06-05			
D	93									8		8					18-06-07			
5	94									9		9					18-06-09			
E	95									15		15					19-01-01			
6	96									14		14					19-01-03			
F	97									13		13					19-01-05			
7	98									12		12					19-01-07			
G	99									11		11					19-01-09			
8	100									10		10					19-02-01			
H	101									16		16					19-02-03			
9	102									17		17					19-02-05			
J	103									18		18					19-02-07			
10	104									19		19					19-02-09			
K	105									20		20					19-03-01			
11	106									21		21					19-03-03			
K	107									22		22					19-03-05			
12	108									30		30					19-03-07			
L	109									29		29					19-03-09			
13	110	J103A	J103B							28	Direct Connection	28					19-04-01	Wall D.D.		
M	Spares									27	Not Conn. Not Conn.	27								
14										26	Not Conn. Not Conn.	26								
N										25	Not Conn. Not Conn.	25				(Signal) (Shield)	31-02-07 31-02-08		SPARE	
15										24	Not Conn. Not Conn.	24								
P										23		23								
16										31		31								
P										32		32								
17										33		33								
Q										34		34								
18										35		35								
R										36		36								
19										37		37								
S										43		43								
20										42		42								
T										41		41								
21										40		40								
U										39		39								
22										38		38								
V										44		44								
23										45		45								
W										46	No: Conn	46								
24										47	517-45	47					28-02-04	M.T.M.Con		BECO
X										48	K8NO2	48					28-01-03	M.T.M.Con		SECO
25										49	Not Conn	49								
Y	Spares									50	Not Conn. Not Conn.	50								
Z	Shield									RTN	Bus Bus	RTN								
-	Shield	J103A	J103B			3B4	3C4		3A4	603 - RTN	Bus Bus	603 - RTN								

PIN	SOURCES BIT	SOURCES OUTPUTS A-REG.	SOURCES OUTPUTS B-REG.	B-GE REG. BIT	B-GE REG. OUTPUT	SWITCH UNIT INPUT A-REG.	SWITCH UNIT INPUT B-REG.	SWITCH UNIT INPUT B-GE	SWITCH UNIT OUTPUT	DIGITAL JUNCTION CONNECTOR IN J504 P.B. PIN	DIGITAL JUNCTION PLUGBOARD PATCH.	DIGITAL JUNCTION CONNECTOR OUT J604 P.B. PIN	D/A CONVERTER UNIT	D/A CONVERTER CONNECTOR DIGITAL INPUT	D/A CONVERTER CONNECTOR ANALOG OUTPUT	I.B.M INTRFACE JUNC. BOX CONN.	STROMBERG INTRFACE JUNC. BOX T. B. 18	DISPLAY UNITS UNIT	DISPLAY UNITS INPUT	REMARKS
		ONL FRAME															Col.-Row-Term			
1	111	J104A	J104B			3B5	3C5		3A5	504 - 1	Direct Connection	604 - 1					14-05-01	R.S.Mon		
A	112									2		2					14-05-03			
2	113									3		3					14-05-05			
B	114									4		4					14-05-07			
3	115									5		5					14-05-09			
C	116									6		6					14-06-01			
4	117									7		7					14-06-03			
D	118									8		8					14-06-05			
5	119									9		9					14-06-07			
E	120									15		15					14-06-09			
6	121									14		14					15-01-01			
F	122									13		13					15-01-03			
7	123									12	Direct Connection	12					15-01-05	R.S.Mon.		
G	124(3B)									11	Not Conn. Not Conn	11								
8	125									10	Direct Connection	10					15-03-01	R.S.Mon.		
H	126									16		16					15-03-03			
9	127									17		17					15-03-05			
I	128									18		18					15-03-07			
10	129									19		19					15-03-09			
J	130									20		20					15-04-01			
11	131									21		21					15-04-03			
K	132									22		22					15-04-05			
12	133									30		30					15-04-07			
L	134									29		29					15-04-09			
13	135									28		28					15-05-01			
M	136									27		27					15-05-03			
14	137									26		26					15-05-05			
N	138									25		25					15-05-07			
15	139									24		24					15-05-09			
O	140									23		23					15-06-01			
16	141									31		31					15-06-03			
P	142									32		32					15-06-05			
17	143									33		33					15-06-07			
Q	144									34		34					15-06-09			
18	145									35		35					16-01-01			
R	146									36		36					16-01-03			
19	147									37		37					16-01-05			
S	148									43		43					16-01-07			
20	149									42		42					16-01-09			
T	150									41		41					16-02-01			
21	151									40		40					16-02-03			
U	152									39		39					16-02-05			
22	153									38		38					16-02-07			
V	154									44		44					16-02-09			
23	155									45		45					16-03-01			
W	156									46		46					16-03-03			
24	157									47	Direct Connection	47					16-03-05	R.S.Mon.		
X	158(3B)									48	Not Conn. Not Conn.	48								
25	Spare									49	Not Conn. Not Conn.	49								
Y	Spare									50	Not Conn. Not Conn.	50								
/	Shield									- RTN	Bus Bus	RTN								
-	Shield	J104A	J104B			3B5	3C5		3A5	504 - RTN	Bus Bus	604 - RTN								

PIN	SOURCES BIT	SOURCES OUTPUTS A-REG.	SOURCES OUTPUTS B-REG.	B-GE REG. BIT	B-GE REG. OUTPUT	SWITCH UNIT INPUT A-REG.	SWITCH UNIT INPUT B-REG.	SWITCH UNIT INPUT B-GE	SWITCH UNIT OUTPUT	DIGITAL JUNCTION CONNECTOR IN J505 P.B PIN	DIGITAL JUNCTION PLUGBOARD PATCH.	DIGITAL JUNCTION CONNECTOR OUT J605 P.B. PIN	D/A CONVERTER UNIT	D/A CONVERTER CONNECTOR DIGITAL INPUT	D/A CONVERTER CONNECTOR ANALOG OUTPUT	I.B.M INTRFACE JUNC. BOX CONN.	STROMBERG INTRFACE JUNC. BOX T. B. 18 Col.-Row-Term	DISPLAY UNITS UNIT	DISPLAY UNITS INPUT	REMARKS
		CDT FRAME																		
1	Spare	J105A	J105B			3B6	3C6		3A6	505 - 1	Not Conn. Not Conn.	605 - 1								
A	Spare									2	Not Conn. Not Conn.	2								
2	161									3	Direct Connection	3					16-03-07	F.D.Con.		
B	162									4		4					16-03-09			
3	163									5		5					16-04-01			
C	164									6		6					16-04-03			
4	165									7		7					16-04-05			
D	166									8		8					16-04-07			
5	167									9		9					16-04-09			
E	168									15		15					16-05-01			
6	169									14		14					16-05-03			
F	170									13		13					16-05-05			
7	171									12		12					16-05-07			
G	172									11		11					16-05-09			
8	173									10		10					16-06-01			
H	174									16		16					16-06-03			
9	175									17		17					16-06-05			
I	176									18		18					16-06-07			
10	177									19		19					17-04-05			
J	178									20		20					17-04-07			
11	179									21		21					17-04-09			
K	180									22		22					17-05-01			
12	181									30		30					17-05-03			
L	182									29		29					17-05-05			
13	183									28		28					17-05-07			
M	184									27		27					17-05-09			
14	185									26		26					17-06-01			
N	186									25		25					17-06-03			
15	187									24		24					17-06-05			
O	188									23		23					17-06-07			
16	189									31		31					17-06-09			
P	190									32		32					18-01-01			
17	191									33		33					18-01-03			
Q	192									34		34					18-01-05			
18	193									35	Direct Connection	35					18-01-07	F.D.Con.		
R	194 (RB)									36	Not Conn. Not Conn.	36								
19	195									37	Direct Connection	37					18-02-01	F.D.Con.		
S	196									43		43					18-02-03			
20	197									42		42					18-02-05			
T	198									41		41					18-02-07			
21	199									40		40					18-02-09			
U	200									39		39					18-03-01			
22	201									38		38					18-03-03			
V	202									44		44					18-03-05			
23	203									45		45					18-03-07			
W	204									46		46					18-03-09			
24	205									47		47					18-07-01	F.D.Con.		Inclination Angle
X	206									48	Direct Connection	48					18-07-03	F.D.Con.		
25	Spare									49	Not Conn. K10C2	49					15-02-07	F.D.Con.		(Go)-(SECO)+GO7090
Y	Spare									50	Not Conn. K10C1	50					15-02-09	F.D.Con.		(No-Go)-(SECO) + No Go 7090
/	Shield									RTN	Bus Bus	RTN								
-	Shield	J105A	J105B			3B6	3C6		3A6	505 - RTN	Bus Bus	605 - RTN								

PIN	SOURCES BIT	SOURCES OUTPUTS A-REG.	SOURCES OUTPUTS B-REG.	B-GE REG. BIT	B-GE REG. OUTPUT	SWITCH UNIT INPUT A-REG.	SWITCH UNIT INPUT B-REG.	SWITCH UNIT INPUT B-GE	SWITCH UNIT OUTPUT	DIGITAL JUNCTION CONNECTOR IN J506 P.B. PIN	DIGITAL JUNCTION CONNECTOR PLUGBOARD PATCH.	DIGITAL JUNCTION CONNECTOR OUT J606 P.B. PIN	D/A CONVERTER UNIT	D/A CONVERTER CONNECTOR DIGITAL INPUT	D/A CONVERTER CONNECTOR ANALOG OUTPUT	I.B.M INTRFACE JUNC. BOX CONN.	STROM-BERG INTRFACE JUNC. BOX T.B. 18	DISPLAY UNITS UNIT	DISPLAY UNITS INPUT	REMARKS
		GRD FRAME															Col.-Row-Term			
1	207	J106A	J106B			3E1	3F1		3D1	506 - 1	Direct Connection	606 - 1					18-04-01	F.D.Con.		
A	208									2		2					18-04-03			
2	209									3		3					18-04-05			
B	210									4		4					18-04-07			
3	211									5		5					18-04-09			
C	212									6		6					18-05-01			
4	213									7		7					16-06-02			
D	214									8		8					17-01-01			
5	215									9		9					17-01-03			
E	216									15		15					17-01-05			
6	217									14		14					17-01-07			
F	218									13		13					17-01-09			
7	219									12		12					17-02-01			
G	220									11		11					17-02-03			
8	221									10		10					17-02-05			
H	222									16		16					17-02-07			
9	223									17		17					17-02-09			
I	224									18		18					17-03-01			
10	225									19		19					17-03-03			
J	226									20		20					17-03-05			
11	227									21		21					17-03-07			
K	228									22		22					17-03-09			
12	229									30		30					17-04-01			
L	230									29	Direct Connection	29					17-04-03	F.D.Con.		
13	231 (BB)									28	Not Conn. Not Conn.	28								
M	232									27	Direct Connection	27					Spare Bits	F.D.Con.		
14	233									26		26								
N	234									25		25								
15	235									24		24								
O	236									23		23								
16	237									31		31								
P	238									32		32								
17	239									33		33								
Q	240									34		34								
18	241									35		35								
R	242									36		36								
19	243									37		37								
S	244									43		43								
20	245									42		42								
T	246									41		41								
21	247									40		40								
U	248									39		39								
22	249									38		38								
V	250									44		44								
23	251									45		45								
W	252									46		46								
24	253									47		47								
X	254									48		48								
25	255									49		49								
Y	256									50	Direct Connection	50					Spare Bits			
⏚	Shield									RTN	Bus Bus	RTN								
-	Shield	J106A	J106B			3E1	3F1		3D1	506 - RTN	Bus Bus	606 - RTN						F.D.Con.		

PIN	SOURCES					SWITCH UNIT				DIGITAL JUNCTION			D/A CONVERTER			I.B.M INTRFACE JUNC. BOX	STROM-BERG INTRFACE	DISPLAY UNITS		REMARKS
	BIT	OUTPUTS		B-GE REG.		INPUT			OUTPUT	CONNECTOR IN J507		CONNECTOR OUT J607	UNIT	CONNECTOR			JUNC. BOX			
		A-REG.	B-REG.	BIT	OUTPUT	A-REG.	B-REG.	B-GE		P.B. PIN	PLUGBOARD PATCH.	P.B. PIN		DIGITAL INPUT	ANALOG OUTPUT	CONN.	T. B. 18	UNIT	INPUT	
		EVEN FRAME															Col.-Row-Term			
1	86	J107A	J107B			3E2	3F2		3D2	507 - 1	Direct Connection	607 - 1					10-05-01	R.C.Con.		
A	87									2		2					10-05-03			
2	88									3		3					10-05-05			
B	89									4		4					10-05-07			
3	90									5		5					10-05-09			
C	91									6		6					10-06-01			
4	92									7		7					10-06-03			
D	93									8		8					10-06-05			
5	94									9		9					10-06-07			
E	95									15		15					10-06-09			
6	96									14		14					11-01-01			
F	97									13		13					11-01-03			
7	98									12		12					11-01-05			
G	99									11		11					11-01-07			
8	100									10		10					11-01-09			
H	101									16		16					11-02-01			
9	102									17		17					11-02-03			
I	103									18		18					11-02-05			
	104									19		19					11-02-07			
J	105									20		20					11-02-09			
11	106									21		21					12-05-01			
K	107									22		22					12-05-03			
12	108									30		30					12-05-05			
L	109									29		29					12-05-07			
13	110									28		28					12-05-09			
M	111									27		27					12-06-01			
14	112									26		26					12-06-03			
N	113									25		25					12-06-05			
15	114									24		24					12-06-07			
O	115									23		23					12-06-09			
16	116									31		31					13-01-01			
P	117									32		32					13-01-03			
17	118									33		33					13-01-05			
Q	119									34		34					13-01-07			
18	120									35		35					13-01-09			
R	121									36		36					13-02-01			
19	122									37		37					13-02-03			
S	123									43		43					13-02-05			
20	124									42		42					13-02-07			
T	125									41	Direct Connection	41					13-02-09	R.C.Con.		
21	126(SB)									40	Not Conn. Not Conn.	40								
U	Spares									39		39								
22										38		38								
V										44		44								
23										45		45								
W										46		46								
24										47		47								
X										48		48								
25										49		49								
Y	Spares									50	Not Conn. Not Conn.	50								
/	Shield									RTN	Bus Bus	RTN								
-	Shield	J107A	J107B			3E2	3F2		3D2	507 - RTN	Bus Bus	607 - RTN								

PIN	SOURCES					SWITCH UNIT				DIGITAL JUNCTION			D/A CONVERTER			I.B.M INTRFACE JUNC. BOX	STROM-BERG INTRFACE	DISPLAY UNITS		REMARKS
	BIT	OUTPUTS		B-GE REG.		INPUT			OUTPUT	CONNECTOR IN J508		OUT J608	UNIT	CONNECTOR			JUNC. BOX T. B. 18	UNIT	INPUT	
		A-REG.	B-REG.	BIT	OUTPUT	A-REG.	B-REG.	B-GE		P.B. PIN	PLUGBOARD PATCH	P.B. PIN		DIGITAL INPUT	ANALOG OUTPUT	CONN.	Col.-Row-Term			
		EVEN FRAME																		
1	127	J108A	J108B			3E4	3F4		3D4	508 - 1	Direct Connection	608 - 1					11-03-01	R.C.Con		
A	128									2		2					11-03-03			
2	129									3		3					11-03-05			
B	130									4		4					11-03-07			
3	131									5		5					11-03-09			
C	132									6		6					11-04-01			
4	133									7		7					11-04-03			
D	134									8		8					11-04-05			
5	135									9		9					11-04-07			
E	136									15		15					11-04-09			
6	137									14		14					11-05-01			
F	138									13		13					11-05-03			
7	139									12		12					11-05-05			
G	140									11		11					11-05-07			
8	141									10		10					11-05-09			
H	142									16		16					11-06-01			
9	143									17		17					11-06-03			
I	144									18		18					11-06-05			
10	145									19		19					11-06-07			
J	146									20		20					11-06-09			
11	147									21		21					13-03-01			
K	148									22		22					13-03-03			
12	149									30		30					13-03-05			
L	150									29		29					13-03-07			
13	151									28		28					13-03-09			
M	152									27		27					13-04-01			
14	153									26		26					13-04-03			
N	154									25		25					13-04-05			
15	155									24		24					13-04-07			
O	156									23		23					13-04-09			
16	157									31		31					13-05-01			
P	158									32		32					13-05-03			
17	159									33		33					13-05-05			
Q	160									34		34					13-05-07			
18	161									35		35					13-05-09			
R	162									36		36					13-06-01			
19	163									37		37					13-06-03			
S	164									43		43					13-06-05			
20	165									42		42					13-06-07			
T	166									41	Direct Connection	41					13-06-09	R.C.Con		
21	167	(BB)								40	Not Conn. Not Conn.	40								
U	Spare									39		39								
22										38		38								
V										44		44								
23										45		45								
W										46		46								
24										47		47								
X										48		48								
25										49		49								
Y	Spare									50	Not Conn. Not Conn.	50								
/	Shield									RTN	Bus Bus	RTN								
-	Shield	J108A	J108B			3E4	3F4		3D4	508 - RTN	Bus Bus	608 - RTN								

PIN	SOURCES BIT	SOURCES OUTPUTS A-REG.	SOURCES OUTPUTS B-REG.	B-GE REG. BIT	B-GE REG. OUTPUT	SWITCH UNIT INPUT A-REG.	SWITCH UNIT INPUT B-REG.	SWITCH UNIT INPUT B-GE	SWITCH UNIT OUTPUT	DIGITAL JUNCTION CONNECTOR IN J509 P.B. PIN	DIGITAL JUNCTION CONNECTOR PLUGBOARD PATCH.	DIGITAL JUNCTION CONNECTOR OUT J609 P.B. PIN	D/A CONVERTER UNIT	D/A CONVERTER CONNECTOR DIGITAL INPUT	D/A CONVERTER CONNECTOR ANALOG OUTPUT	I.B.M INTRFACE JUNC. BOX CONN.	STROMBERG INTRFACE JUNC. BOX T. B. 18	DISPLAY UNITS UNIT	DISPLAY UNITS INPUT	REMARKS
		SI FRAME															Col.-Row-Term			
1	168	J109A	J109B			3E5	3F5		3D5	509 - 1	Direct Connection	609 - 1					12-01-01	R.C.Con		
A	169									2		2					12-01-03			
2	170									3		3					12-01-05			
B	171									4		4					12-01-07			
3	172									5		5					12-01-09			
C	173									6		6					12-02-01			
4	174									7		7					12-02-03			
D	175									8		8					12-02-05			
5	176									9		9					12-02-07			
E	177									15		15					12-02-09			
6	178									14		14					12-03-01			
F	179									13		13					12-03-03			
7	180									12		12					12-03-05			
G	181									11		11					12-03-07			
8	182									10		10					12-03-09			
H	183									16		16					12-04-01			
9	184									17		17					12-04-03			
I	185									18		18					12-04-05			
10	186									19		19					12-04-07			
J	187									20		20					12-04-09			
11	188									21		21					14-01-01			
K	189									22		22					14-01-03			
12	190									30		30					14-01-05			
L	191									29		29					14-01-07			
13	192									28		28					14-01-09			
M	193									27		27					14-02-01			
14	194									26		26					14-02-03			
N	195									25		25					14-02-05			
15	196									24		24					14-02-07			
O	197									23		23					14-02-09			
16	198									31		31					14-03-01			
P	199									32		32					14-03-03			
17	200									33		33					14-03-05			
Q	201									34		34					14-03-07			
18	202									35		35					14-03-09			
R	203									36		36					14-04-01			
19	204									37		37					14-04-03			
S	205									43		43					14-04-05			
20	206									42		42					14-04-07			
T	207									41	Direct Connection	41					14-04-09	R.C.Con		
21	208	(BB)								40	Not Conn. Not Conn.	40								
U	Spare									39		39								
22										38		38								
V										44		44								
23										45		45								
W										46		46								
24										47		47								
X										48		48								
25										49		49								
Y	Spare									50	Not Conn. Not Conn.	50								
/	Shield									RTN	Bus Bus	RTN								
-	Shield	J109A	J109B			3E5	3F5		3D5	509 - RTN	Bus Bus	609 - RTN								

PIN	SOURCES BIT	SOURCES OUTPUTS A-REG.	SOURCES OUTPUTS B-REG.	B-GE REG. BIT	B-GE REG. OUTPUT	SWITCH UNIT INPUT A-REG.	SWITCH UNIT INPUT B-REG.	SWITCH UNIT INPUT B-GE	SWITCH UNIT OUTPUT	DIGITAL JUNCTION CONNECTOR IN J510 P.B. PIN	DIGITAL JUNCTION PLUGBOARD PATCH	DIGITAL JUNCTION CONNECTOR OUT J610 P.B. PIN	D/A CONVERTER UNIT	D/A CONVERTER CONNECTOR DIGITAL INPUT	D/A CONVERTER CONNECTOR ANALOG OUTPUT	I.B.M INTRFACE JUNC. BOX CONN.	STROMBERG INTRFACE JUNC. BOX T.B. 18 Col.-Row-Term	DISPLAY UNITS UNIT	DISPLAY UNITS INPUT	REMARKS
		EVEN																		
1	209	J110A	J110B			3E6	3F6		3D6	510 - 1	Direct Connection	610 - 1					10-01-01	R.C.Con		
A	210									2		2					10-01-03			
2	211									3		3					10-01-05			
B	212									4		4					10-01-07			
3	213									5		5					10-01-09			
C	214									6		6					10-02-01			
4	215									7		7					10-02-03			
D	216									8		8					10-02-05			
5	217									9		9					10-02-07			
E	218									15		15					10-02-09			
6	219									14		14					10-03-01			
F	220									13		13					10-03-03			
7	221									12		12					10-03-05			
G	222									11		11					10-03-07			
8	223									10		10					10-03-09			
H	224									16		16					10-04-01			
9	225									17		17					10-04-03			
I	226									18		18					10-04-05			
10	227									19		19					10-04-07			
J	228									20		20					10-04-09			
11	229									21		21					26-02-05			
K	230									22		22					26-02-07			
12	231									30		30					26-02-09			
L	232									29		29					26-03-01			
13	233									28		28					26-03-03			
M	234									27		27					26-03-05			
14	235									26		26					26-03-07			
N	236									25		25					26-06-05			Sense Bit
15	237									24		24					26-03-09			
O	238									23		23					26-04-01			
16	239									31		31					26-04-03			
P	240									32		32					26-04-05			
17	241									33		33					26-04-07			
Q	242									34		34					26-04-09			
18	243									35		35					26-05-01			
R	244									36		36					26-06-07			Sense Bit
19	245									37		37					26-05-03			
S	246									43		43					26-05-05			
20	247									42		42					26-05-07			
T	248									41		41					26-05-09			
21	249									40		40					26-06-01			
U	250									39		39					26-06-03			
22	251									38		38					26-06-09			Sense Bit
V	252									44		44					15-01-07			
23	253									45		45					15-01-09			
W	254									46		46					15-02-01	R.C.Con		Retro Controllers
24	255									47		47					15-02-03	R.C.Con		Console
X	256									48	Direct Connection	48					15-02-03	R.C.Con		
25	Spare									49	Not Conn. Not Conn.	49								
Y	Spare									50	Not Conn. Not Conn.	50								
f	Shields									RTN	Bus Bus	RTN								
-	Shields	J110A	J110B			3E6	3F6		3D6	510 - RTN	Bus Bus	610 - RTN								

PIN	SOURCES BIT	OUTPUTS A-REG.	OUTPUTS B-REG.	B-GE REG. BIT	B-GE REG. OUTPUT	SWITCH UNIT INPUT A-REG.	SWITCH UNIT INPUT B-REG.	SWITCH UNIT INPUT B-GE	SWITCH UNIT OUTPUT	DIGITAL JUNCTION CONNECTOR IN P.B. PIN	DIGITAL JUNCTION CONNECTOR PLUGBOARD PATCH.	DIGITAL JUNCTION CONNECTOR OUT P.B. PIN	D/A CONVERTER UNIT	D/A CONVERTER CONNECTOR DIGITAL INPUT	D/A CONVERTER CONNECTOR ANALOG OUTPUT	I.B.M INTRFACE JUNC. BOX CONN.	STROMBERG INTRFACE JUNC. BOX TB-18	DISPLAY UNITS UNIT	DISPLAY UNITS INPUT	REMARKS
1	257	J111A	J111B			3H1	3J1		3G1	511-1	Not Conn.	512-31	611-1	B	J711-1	J802-L	(Chan 1)	30-10-03	Plot II		Analog to Plot II
A	258									-2	614-14	-32	-2		-A			30-10-06			X1, X2
2	259									-3	-13	-33	-3		-2						
B	260									-4	-12	-34	-4		-B	J802-R,S		30-10-07			H.Q. SIG. RTN
3	261									-5	-11	-35	-5		-3						
C	262									-6	-10	-36	-6		-C	J27-3		30-10-08			+35V REF P.B. II
4	263									-7	-16	-37	-7		-4			29-05-09			+35V REF W.M.
D	264									-8	-17	-43	-8		-D						
5	265									-9	-18	-42	-9		-5	J27-I		30-10-09			H.Q. REF RTN
E	266	J111A	J111B			3H1	3J1		3G1	511-15	614-19	512-41	611-15	B	J711-E						
6	267	J111A	J111B			3H1	3J1		3G1	511-14	614-20	512-40	611-14	B	J711-6	J802-A	(Chan 2)	30-10-05	Plot II		Analog to Plot II
F	268									-13	-1	-39	-13		-F						Y1
7	269									-12	-2	-38	-12		-7						
G	270									-11	-3	-44	-11		-G						
8	271									-10	-4	-45	-10		-8						
H	272									-16	-5	-46	-16		-H						
9	273									-17	-6	-47	-17		-9						
I	274									-18	-7	-48	-18		-I						
10	275									-19	-8	-49	-19		-10						
J	276	J111A	J111B			3H1	3J1		3G1	511-20	614-9	512-50	611-20	B	J711-J						
11	277	J111A	J111B			3H1	3J1		3G1	511-21	614-15	512-21	611-21	B	J711-11	J802-J	(Chan 3)	30-10-02	Plot II		Analog to Plot II
K	278									-22	601-31	-22	-22		-K						Y2
12	279									-30	-32	-30	-30		-12						
L	280									-29	-33	-29	-29		-L						
13	281									-28	-34	-28	-28		-13						
M	282									-27	-35	-27	-27		-M						
14	283									-26	-36	-26	-26		-14						
N	284									-25	-37	-25	-25		-N						
15	285									-24	-43	-24	-24		-15						
O	286	J111A	J111B			3H1	3J1		3G1	511-23	601-42	512-23	611-23	B	J711-O						
16	287	J111A	J111B			3H1	3J1		3G1	511-31	601-41	502-14	611-31	B	J711-16	J802-V	(Chan 4)	28-02-09	Wall map		Analog to Wall Map
P	288									-32	-21	-13	-32		-P						Cap. Pos. Long
17	289									-33	-22	-12	-33		-17						
Q	290									-34	-30	-11	-34		-Q						
18	291									-35	-29	-10	-35		-18						
R	292									-36	-28	-16	-36		-R						
19	293									-37	-27	-17	-37		-19						
S	294									-43	-26	-18	-43		-S						
20	295									-42	-25	-19	-42		-20						
T	296	J111A	J111B			3H1	3J1		3G1	511-41	601-24	502-20	611-41	B	J711-T						
21	297	J111A	J111B			3H1	3J1		3G1	511-40	601-23	Not Conn.	611-40	B	J711-21						
U	298	(BB)								-39	Not Conn.		-39		-U						Busy Bit
22	Spare									-38			-38		-22						
V										-44			-44		-V						
23										-45			-45		-23						
W										-46			-16		-W						
24										-47			-47		-24						
X										-48			-48		-X						
25										-49			-49		-25						
Y	Spare									-50	Not Conn.	Not Conn.	-50		-Y						
+	Shield									-RTN	Bus	Bus	-RTN		+						
-	Shield	J111A	J111B			3H1	3J1		3G1	511-RTN	Bus	Bus	611-RTN	B	J711- -						

PIN	SOURCES					SWITCH UNIT				DIGITAL JUNCTION				D/A CONVERTER			I.B.M INTRFACE JUNC. BOX	STROM-BERG INTRFACE JUNC. BOX	DISPLAY UNITS		REMARKS
	BIT	OUTPUTS		B-GE REG.		INPUT			OUTPUT	CONNECTOR IN			OUT	UNIT	CONNECTOR				UNIT	INPUT	
		A-REG.	B-REG.	BIT	OUTPUT	A-REG.	B-REG.	B-GE		P.B. PIN	PLUGBOARD PATCH.		P.B. PIN		DIGITAL INPUT	ANALOG OUTPUT	CONN.				
1	299	J112A	J112B	38	J115	3H4	3J4	3K4	3G4	512-1	615-1	501-21	612-1	A	J712-1	J801-C	(Chan 5)		DQM	J718-M	Analog to DQM Channel 6
A	300			37						-2	-2	-22	-2		-A						
2	301			36						-3	-3	-30	-3		-2						
B	302			35						-4	-4	-29	-4		-B						
3	303			34						-5	-5	-28	-5		-3						
C	304			33						-6	-6	-27	-6		-C						
4	305			32						-7	-7	-26	-7		-4						
D	306			31						-8	-8	-25	-8		-D						
5	307			30						-9	-9	-24	-9		-5						
E	308	J112A	J112B	29	J115	3H4	3J4	3K4	3G4	512-15	615-15	501-23	612-15	A	J712-E						
6	309	J112A	J112B	48	J115	3H4	3J4	3K4	3G4	512-14	615-21	501-31	612-14	A	J712-6	J801-G	(Chan 6)		DQM	J718-N	Analog to DQM Channel 8
F	310			47						-13	-22	-32	-13		-F						
7	311			46						-12	-30	-33	-12		-7						
G	312			45						-11	-29	-34	-11		-G						
8	313			44						-10	-28	-35	-10		-8						
H	314			43						-16	-27	-36	-16		-H						
9	315			42						-17	-26	-37	-17		-9						
I	316			41						-18	-25	-43	-18		-I						
10	317			40						-19	-24	-42	-19		-10						
J	318	J112A	J112B	39	J115	3H4	3J4	3K4	3G4	512-20	615-23	501-41	612-20	A	J712-J						
11	329	J112A	J112B	88	J115	3H4	3J4	3K4	3G4	512-21	611-21	Not Conn.	612-21	A	J712-11	J801-E	(Chan 7)				SPARE
K	330			87						-22	-22		-22		-K						
12	331			86						-30	-30		-30		-12						
L	332			85						-29	-29		-29		-L						
13	333			84						-28	-28		-28		-13						
M	334			83						-27	-27		-27		-M						
14	335			82						-26	-26		-26		-14						
N	336			81						-25	-25		-25		-N						
15	337			80						-24	-24		-24		-15						
O	338	J112A	J112B	79	J115	3H4	3J4	3K4	3G4	512-23	611-23	Not Conn.	612-23	A	J712-O						
16	340	J112A	J112B	78	J115	3H4	3J4	3K4	3G4	512-31	611-1	Not Conn.	612-31	A	J712-16						
P	341			77						-32	-2		-32		-P						
17	342			76						-33	-3		-33		-17						
Q	343			75						-34	-4		-34		-Q						
18	344			74						-35	-5		-35		-18						
R	345			73						-36	-6		-36		-R						
19	346			72						-37	-7		-37		-19						
S	347			71						-43	-8		-43		-S						
20	348			70						-42	-9		-42		-20						
T	349	J112A	J112B	69	J115	3H4	3J4	3K4	3G4	512-41	611-15	Not Conn.	612-41	A	J712-T						
21	350	J112A	J112B	98	J115	3H4	3J4	3K4	3G4	512-40	611-14	Not Conn.	612-40	A	J712-21						
U	351			97						-39	-13		-39		-U						
22	352			96						-38	-12		-38		-22						
V	353			95						-44	-11		-44		-V						
23	354			94						-45	-10		-45		-23						
W	355			93						-46	-16		-46		-W						
24	356			92						-47	-17		-47		-24						
X	357			91						48	-18		-48		-X						
25	358			90						-49	-19	Not Conn.	-49		-25						
Y	359			98						-50	612-20	Note B-P13	-50		-Y						Hold Trigger Line
+	Shield			Shield						-RTN	Bus	Bus	-RTN		- +						
-	Shield	J112A	J112B	Shield	J115	3H4	3J4	3K4	3G4	512-RTN	Bus	Bus	612-RTN	A	J712- -						

PIN	SOURCES BIT	SOURCES OUTPUTS A-REG.	SOURCES OUTPUTS B-REG.	B-GE REG. BIT	B-GE REG. OUTPUT	SWITCH UNIT INPUT A-REG.	SWITCH UNIT INPUT B-REG.	SWITCH UNIT INPUT B-GE	SWITCH UNIT OUTPUT	DIGITAL JUNCTION CONNECTOR IN P.B. PIN	DIGITAL JUNCTION CONNECTOR PLUGBOARD PATCH	DIGITAL JUNCTION CONNECTOR OUT P.B. PIN	D/A CONVERTER UNIT	D/A CONVERTER CONNECTOR DIGITAL INPUT	D/A CONVERTER CONNECTOR ANALOG OUTPUT	I.B.M INTRFACE JUNC. BOX CONN.	STROM-BERG INTRFACE JUNC. BOX TB-18	DISPLAY UNITS UNIT	DISPLAY UNITS INPUT	REMARKS
1	319	J113A	J113B	58	J116	3H6	3J6	3K6	3G6	513-1	615-14 517-33	613-1	C	J713-1	J803-L	(Chan 1)		DQM	J718-O	Analog to DQM
A	320			57						-2	-13 -34	-2		-A						Channel 3
2	321			56						-3	-12 -35	-3		-2						
B	322			55						-4	-11 -36	-4		-B	J803-R,S		30-05-01			H.Q. SIG RTN
3	323			54						-5	-10 -37	-5		-3						
C	324			53						-6	-16 -43	-6		-C	J27-B		30-05-02			+ 35V REF
4	325			52						-7	-17 -42	-7		-4						
D	326			51						-8	-18 -41	-8		-D	J27-I		30-05-03			H.Q. REF RTN
5	327			50						-9	-19 -40	-9		-5						
E	328	J113A	J113B	49	J116	3H6	3J6	3K6	3G6	513-15	615-20 517-39	613-15	C	J713-E						
6	Spare	J113A	J113B	Spare	J116	3H6	3J6	3K6	3G6	513-14	Not Conn. 517-30	613-14	C	J713-6	J803-A	(Chan 2)		DQM	J718-S	Analog to DQM
F										-13	-29	-13		-F						Channel 7
7										-12	-28	-12		-7						
G										-11	-27	-11		-G						
8										-10	-26	-10		-8						
H										-16	-25	-16		-H						
9										-17	-24	-17		-9						
I										-18	-23	-18		-I						
10										-19	-31	-19		-10						
J	Spare	J113A	J113B	Spare	J116	3H6	3J6	3K6	3G6	513-20	Not Conn. 517-32	613-20	C	J713-J						
11	360	J113A	J113B	108	J116	3H6	3J6	3K6	3G6	513-21	617-21 517-1	613-21	C	J713-11	J803-J	(Chan 3)	30-04-07	Plot III		Analog to Plot III
K	361			107						-22	-22 -2	-22		-K	J803-R,S		30-04-10	(Return)		X1, X2 before
12	362			106						-30	-30 -3	-30		-12						175 sec.
L	363			105						-29	-29 -4	-29		-L						
13	364			104						-28	-28 -5	-28		-13						
M	365			103						-27	-27 -6	-27		-M						
14	366			102						-26	-26 -7	-26		-14						
N	367			101						-25	-25 -8	-25		-N						
15	368			100						-24	-24 -9	-24		-15						
O	369	J113A	J113B	99	J116	3H6	3J6	3K6	3G6	513-23	617-23 517-15	613-23	C	J713-O						
16	370	J113A	J113B	118	J116	3H6	3J6	3K6	3G6	513-31	617-1 517-13	613-31	C	J713-16	J803-V	(Chan 4)	30-04-09	Plot III		Analog to Plot III
P	371			117						-32	-2 -12	-32		-P						Y1 before 175 sec.
17	372			116						-33	-3 -11	-33		-17						
Q	373			115						-34	-4 -10	-34		-Q						
18	374			114						-35	-5 -16	-35		-18						
R	375			113						-36	-6 -17	-36		-R						
19	376			112						-37	-7 -18	-37		-19						
S	377			111						-43	-8 -19	-43		-S						
20	378			110						-42	-9 -20	-42		-20						
T	379	J113A	J113B	109	J116	3H6	3J6	3K6	3G6	513-41	617-15 517-21	613-41	C	J713-T						
21	159	J113A	J113B	Spare	J116	3H6	3J6	3K6	3G6	513-40	K10 NC1 Not Conn.	613-40	C	J713-21						
U	160									-39	K10 NC2	-39		-U						
22	Spare									-38	Not Conn.	-38		-22						
V										-44		-44		-V						
23										-45		-45		-23						
W										-46		-46		-W						
24										-47		-47		-24						
X										-48		-48		-X						
25										-49		-49		-25						
Y	Spare			Spare						-50	Not Conn. Not Conn.	-50		-Y						
+	Shield			Shield						-RTN	Bus Bus	-RTN		-+						
-	Shield	J113A	J113B	Shield	J116	3H6	3J6	3K6	3G6	513-RTN	Bus Bus	613-RTN	C	J713--						

Note A: Hold trigger line for D/A hold
501-47 517-14

Note B: Contacts 501-47, 517-14 shall be OR inputs to 602-50, 612-50, 614-50 and 615-50.
(See diagram for wiring information page 21)

PIN	SOURCES					SWITCH UNIT				DIGITAL JUNCTION				D/A CONVERTER			I.B.M INTRFACE JUNC. BOX	STROM-BERG INTRFACE	DISPLAY UNITS		REMARKS
	BIT	OUTPUTS A-REG.	OUTPUTS B-REG.	B-GE REG. BIT	B-GE REG. OUTPUT	INPUT A-REG.	INPUT B-REG.	INPUT B-GE	OUTPUT	CONNECTOR IN — P.B. PIN	PLUGBOARD PATCH.	CONNECTOR OUT — P.B. PIN	UNIT	CONNECTOR DIGITAL INPUT	CONNECTOR ANALOG OUTPUT		CONN. —	JUNC. BOX TB-18	UNIT	INPUT	
1	339	J114A	J114B			3H3	3J3		3G3	514-1	Not Conn	511-13	614-1	D	J714-1	J804-C	(Chan 5)	30-12-09	Plot IV		Analog to Plot IV
A	380(BB)									-2		-12	-2		-A						X2
2	402									-3		-11	-3		-2						
B	403									-4		-10	-4		-B						
3	404									-5		-16	-5		-3						
C	405									-6		-17	-6		-C						
4	406									-7		-18	-7		-4						
D	407									-8		-19	-8		-D						
5	408									-9	Not Conn.	-20	-9		-5						
E	Spare	J114A	J114B			3H3	3J3		3G3	514-15	Note B, P13	511-21	614-15	D	J714-E						
6	Spare	J114A	J114B			3H3	3J3		3G3	514-14	Not Conn	511-2	614-14	D	J714-6	J804-G	(Chan 6)	30-12-10	Plot IV		Analog to Plot IV
F										-13		-3	-13		-F						Y2
7										-12		-4	-12		-7						
G										-11		-5	-11		-G						
8										-10		-6	-10		-8						
H										-16		-7	-16		-H						
9										-17		-8	-17		-9						
I										-18		-9	-18		-I						
10										-19		-15	-19		-10						
J	Spare	J114A	J114B			3H3	3J3		3G3	514-20	Not Conn	511-14	614-20	D	J714-J						
11	381	J114A	J114B			3H3	3J3		3G3	514-21	617-31	Not Conn	614-21	D	J714-11	J804-E	(Chan 7)				SPARE
K	382									-22	-32		-22		-K						
12	383									-30	-33		-30		-12						
L	384									-29	-34		-29		-L						
13	385									-28	-35		-28		-13						
M	386									-27	-36		-27		-M						
14	387									-26	-37		-26		-14						
N	388									-25	-43		-25		-N						
15	389									-24	-42		-24		-15						
O	390	J114A	J114B			3H3	3J3		3G3	514-23	617-41	Not Conn	614-23	D	J714-O						
16	391	J114A	J114B			3H3	3J3		3G3	514-31	617-14	Not Conn	614-31	D	J714-16						
P	392									-32	-13		-32		-P						
17	393									-33	-12		-33		-17						
Q	394									-34	-11		-34		-Q						
18	395									-35	-10		-35		-18						
R	396									-36	-16		-36		-R						
19	397									-37	-17		-37		-19						
S	398									-43	-18		-43		-S						
20	399									-42	-19		-42		-20						
T	400	J114A	J114B			3H3	3J3		3G3	514-41	617-20	Not Conn	614-41	D	J714-T						
21	401	J114A	J114B			3H3	3J3		3G3	514-40	616-46 K19-1	Not Conn	614-40	D	J714-21						
U	Spare									-39	Not Conn		-39		-U						
22										-38			-38		-22						
V										-44			-44		-V						
23										-45			-45		-23						
W										-46			-46		-W						
24										-47			-47		-24						
X										-48			-48		-X						
25										-49		Not Conn	-49		-25						
Y	Spare									-50	Not Conn	Note B-P13	-50		-Y						Hold Trigger Line
+	Shield									-RTN	Bus	Bus	-RTN		- +						
-	Shield	J114A	J114B			3H3	3J3		3G3	514-RTN	Bus	Bus	614-RTN	D	J714- -						

PIN	SOURCES				SWITCH UNIT				DIGITAL JUNCTION			D/A CONVERTER			I.B.M INTRFACE JUNC. BOX	STROM-BERG INTRFACE	DISPLAY UNITS		REMARKS
	BIT	OUTPUTS		B-GE REG.		INPUT			OUTPUT	CONNECTOR IN			UNIT	CONNECTOR		CONN.	JUNC. BOX TB-18	UNIT	INPUT	
		A-REG.	B-REG.	BIT	OUTPUT	A-REG.	B-REG.	B-GE		P.B. PIN	PLUGBOARD PATCH.	P.B. PIN OUT		DIGITAL INPUT	ANALOG OUTPUT					
											512-1	615-1	C	J715-1	J803-C	(Chan 5)	30-05-06	Plot III		Analog to Plot III
											-2	-2		-A						Y1 Aft
											-3	-3		-2						
											-4	-4		-B						
											-5	-5		-3						
											-6	-6		-C						
											-7	-7		-4						
											-8	-8		-D						
											-9	-9		-5						
											512-15	615-15	C	J715-E						
											513-1	615-14	C	J715-6	J803-G	(Chan 6)	30-05-04	Plot III		Analog to Plot III
											-2	-13		-F						Y2 Aft
											-3	-12		-7						
											-4	-11		-G						
											-5	-10		-8						
											-6	-16		-H						
											-7	-17		-9						
											-8	-18		-I						
											-9	-19		-10						
											513-15	615-20	C	J715-J						
											512-14	615-21	C	J715-11	J803-E	(Chan 7)	30-05-07	Plot III		Analog to Plot III
											-13	-22		-K	J803-R,S		30-05-05	(Return)		X1, X2 Aft
											-12	-30		-12						
											-11	-29		-L						
											-10	-28		-13						
											-16	-27		-M						
											-17	-26		-14						
											-18	-25		-N						
											-19	-24		-15						
											512-20	615-23	C	J715-O						
											Not Conn	615-31	C	J715-16						
												-32		-P						
												-33		-17						
												-34		-Q						
												-35		-18						
												-36		-R						
												-37		-19						
												-43		-S						
												-42		-20						
											Not Conn	615-41	C	J715-T						
											Not Conn	515-40	C	J715-21						
												-39		-U						
												-38		-22						
												-44		-V						
												-45		-23						
												-46		-W						
												-47		-24						
												-48		-X						
											Not Conn	-49		-25						
											Note B-P13	-50		-Y						Hold Trigger Line
											Bus	RTN		- +						
											Bus	615-RTN	C	J715- -						

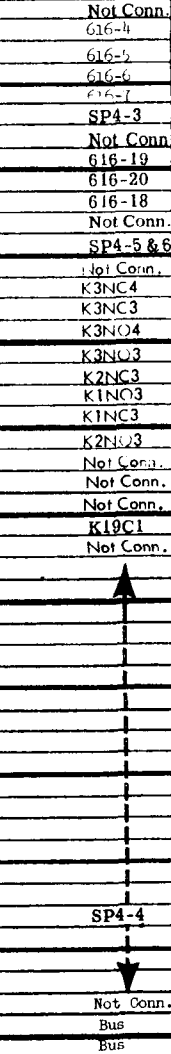
PIN	SOURCES					SWITCH UNIT				DIGITAL JUNCTION				D/A CONVERTER			I.B.M INTRFACE JUNC. BOX	STROM-BERG INTRFACE	DISPLAY UNITS		REMARKS
	BIT	OUTPUTS A-REG.	OUTPUTS B-REG.	B-GE REG. BIT	B-GE REG. OUTPUT	INPUT A-REG.	INPUT B-REG.	INPUT B-GE	OUTPUT	CONNECTOR IN / OUT P.B. PIN	PLUGBOARD PATCH		CONNECTOR OUT P.B. PIN	UNIT	CONNECTOR DIGITAL INPUT	CONNECTOR ANALOG OUTPUT	CONN.	JUNC. BOX TB-18	UNIT	INPUT	
1				128	J117					517-1	613-21	513-31	617-1	A	J717-1	J801-L	(Chan 1)	30-07-05	Plot I		Analog to Plot I X1
A				127						-2	-22	-32	-2		-A						
2				126						-3	-30	-33	-3		-2						
B				125						-4	-29	-34	-4		-B	J801-R, S		30-07-09			H. Q. SIG RTN
3				124						-5	-28	-35	5		-3						
C				123						-6	-27	-36	-6		-C	J27-B		30-07-10			+35V REF
4				122						-7	-26	-37	-7		-4						
D				121						-8	-25	-43	-8		-D	J27-I		30-08-01			H. Q. REF RTN
5				120						-9	-24	-42	-9		-5						
E				119	J117					517-15	613-23	513-41	617-15	A	J717-E						
6				Note	A-P13					517-14	Note B-P13	514-31	617-14	A	J717-6	J801-A	(Chan 2)	30-07-08	Plot I		Analog to Plot I X2 SP
F				68	J117					-13	613-31	-32	-13		-F						
7				67						-12	-32	-33	-12		-7						
G				66						-11	-33	-34	-11		-G						
8				65						-10	-34	-35	-10		-8						
H				64						-16	-35	-36	-16		-H						
9				63						-17	-36	-37	-17		-9						
I				62						-18	-37	-43	-18		-I						
10				61						-19	-43	-42	-19		-10						
J				60	J117					517-20	613-42	514-41	617-20	A	J717-J						
11				59	J117					517-21	613-41	513-21	617-21	A	J717-11	J801-J	(Chan 3)	30-07-07	Plot I		Analog to Plot I Y1
K				8		(Go -	No Go)			-22	K9-1	-22	-22		-K						
12				28						-30	613-14	-30	-30		-12						
L				27						-29	-13	-29	-29		-L						
13				26						-28	-12	-28	-28		-13						
M				25						-27	-11	-27	-27		-M						
14				24						-26	-10	-26	-26		-14						
N				23						-25	-16	-25	-25		-N						
15				22						-24	17	-24	-24		-15						
O				21	J117					517-23	613-18	513-23	617-23	A	J717-O						
16				20	J117					517-31	613-19	514-21	617-31	A	J717-16	J801-V	(Chan 4)	30-07-04	Plot I		Analog to Plot I Y2 SP
P				19						-32	-20	-22	-32		-P						
17				18						-33	- 1	-30	-33		-17						
Q				17						-34	- 2	-29	-34		-Q						
18				16						-35	- 3	-28	-35		-18						
R				15						-36	- 4	-27	-36		-R						
19				14						-37	- 5	-26	-37		-19						
S				13						-43	- 6	-25	-43		-S						
20				12						-42	- 7	-24	-42		-20						
T				11	J117					517-41	613-8	514-23	617-41	A	J717-T						
21				10	J117					517-40	613-9	Not Conn	617-40	A	J717-21						
U				9						517-39	613-15		-39		-U						
22				-17V						-17V			-38		-22						
V				7		(SECO)				517-44	K8-1		-44		-V						
23				6		(BECO)				-45	603-47		-45		-23						
W				5						-46	Not Conn		-46		-W						
24				4						-47	K7-1		-47		-24						
X				3						-48	K6-1		-48		-X						
25				2						-49	K5-1		-49		-25						
Y				1	J117					517-50	K4-1	Not Conn	-50		Y						
+				17V	Return					-17V RTN	Bus	Bus	-RTN		-						
-				Shield	J117					517-RTN	Bus	Bus	617-RTN	A	J717-						

PIN	BIT	SOURCES OUTPUTS A-REG.	SOURCES OUTPUTS B-REG.	B-GE REG. BIT	B-GE REG. OUTPUT	SWITCH UNIT INPUT A-REG.	SWITCH UNIT INPUT B-REG.	SWITCH UNIT INPUT B-GE	SWITCH UNIT OUTPUT	DIGITAL JUNCTION CONNECTOR IN ___ P.B. PIN	PLUGBOARD PATCH	OUT J616 P.B. PIN	D/A CONVERTER UNIT	D/A CONNECTOR DIGITAL INPUT	D/A CONNECTOR ANALOG OUTPUT	I.B.M INTRFACE JUNC. BOX CONN.___	STROMBERG INTRFACE JUNC. BOX T. B. 18	DISPLAY UNITS UNIT	DISPLAY UNITS INPUT	REMARKS
																	Col.-Row-Term			
1		Note 1A: Information for D.Q.M. to Stromberg Interface Junction Box									Not Conn.	616 - 1						D.Q.M.	J716 - 1	Note 1B
A		Column 616									Not Conn.	2							A	Note 1A
2	Hub	2									Not Conn.	3							2	
B		3									516-5	4							B	
3		4 Select IBM 7090 for P.B. I and II									516-6	5							3	
C		5 " " " " Return									516-7	6							C	
4		6 Select B-GE. for P.B. I and II									516-8	7							4	Note 1A
D		7 " " " " Return									Not Conn.	8							D	Note 1B
5		Note 1B: Information from D.Q.M. to IBM Digital Junction Box (available										9							5	
E		to be displayed but not used.)										15							E	
6		Column 616										14							6	
F	Hub	1 Abort Phase has been initiated										13							F	
7		8 Select IBM 7090 for P.B. III										12							7	
G		9 " " " Return										11							G	
8		15 Select B-GE. for P.B. III									Not Conn.	10							8	Note 1B
H		14 " " " " Return									SP4-1	16							H	Note 2
9		13 Select Register A									SP4-2	17							9	Note2
I		12 " " Return									516-12	18		Abort IND					I	
10		11 Select Register B									516-14	19		Orbit IND					10	
J		10 " " Return									516-13	20		Abort &	Orbit IND	RTN			J	Note 2
11		Note 2: Information from D.Q.M. to IBM Interface Box									515-1	21							11	Note 3
K		Column 616									515-30 + K10-3	22							K	
12	Hub	16 Select B-GE. for 7090									515-21	30							12	
L		17 " " " " Return									515-28	29							L	Note 3
13		18									515-3	28							13	Note 4
M		19									515-7	27							M	
14		20									515-5	26							14	
N		Note 3: The following information is generated at the D.Q.M. and sent to the									515-12	25							N	
15		switch unit thru column 616:									515-9	24							15	
O	Hub	21 Select Register "B"									515-14	23							O	
16		22 Select B-GE. for P.B. I and II									515-10	31							16	
P		30 Select B-GE. for P.B. III and Pick Relay for B-GE (Go-No Go)									515-19	32							P	
17		29 Return for information thru hubs 21, 22, and 30									515-17	33							17	Note 4
Q		Note 4: The following information is logically generated at the switch unit and									Not Conn.	34							Q	
18		sent to the D.Q.M. thru:										35							18	
R		Column 616										36							R	
19	Hub	28 Confirm Register "A" Active										37							19	
S		27 Confirm Register "B" Active										43							S	
20		26 Return for information of hubs 28 and 27									Not Conn.	42							20	
T		25 Confirm IBM 7090 for P.B. I and II									K1 NC2	41							T	Note 5
21		24 Confirm B-GE. for P.B. I and II									K7 C1, K1N01, K2N02	40							21	
U		23 Return for information of hubs 25 and 24									K1 NC2	39							U	
22		31 Confirm IBM 7090 for P.B. III									K6 C1, K1N01, K2N02	38							22	
V		32 Confirm B-GE. for P.B. III									K2 NC1	44							V	
23		33 Return for information of hubs 31 and 32									K1 NC1,K5C1,K4C1,K2N02	45							23	Note 5
W		Note 5: The following information is logically generated at the Digital Junction									514-40	46							W	(Timing Bit-401)Ch.5
24		Box from pin 17 (Connector J531, Pin 21), 42 (Connector 501 Pin 4), and sent to the D.Q.M. thru Column 616									K7-NC1	47	(B.-G.E. Bits 1,		2,3 & 4	are logically	inverted in		24	B-GE Bit #4
X	Hub	41 Confirm IBM 7090 for IBM 7090									K6-NC1	48	the Digital		Junc. Box	and supplied	to the		X	" " #3
25		40 " " " " Return									K5-NC1	49	D.Q.M. as		contact	closures.)			25	" " #2
Y		39 Confirm Relay for IBM 7090									K4-NC1	50							Y	" " #1
Z		38 " " " " Return									Bus	RTN							Z	
-		44 Confirm B-GE. for IBM 7090									Bus	616 - RTN						D.Q.M.	J716 - -	
		45 " " " " Return									K4C1,K5C1,K6C1,K7C1	Bus								

PIN	SOURCES					SWITCH UNIT				DIGITAL JUNCTION			D/A CONVERTER		I.B.M INTRFACE JUNC. BOX	STROM-BERG INTRFACE JUNC. BOX	DISPLAY UNITS		REMARKS
	BIT	OUTPUTS		B-GE REG.		INPUT			OUTPUT	CONNECTOR IN ____ OUT J SP4			UNIT	CONNECTOR	CONN. ___	Col.-Row-Term	UNIT	INPUT	
		A-REG.	B-REG.	BIT	OUTPUT	A-REG.	B-REG.	B-GE		P.B. PIN	PLUGBOARD PATCH	P.B. PIN		DIGITAL INPUT / ANALOG OUTPUT					
1											616-16	SP4 - 1							
A 2											616-17	2			J8 - 1				
3											516-9	3			J8 - A				Note 2
B 4											516-46	4		Abort Phase	J8 - 2				
5											516-10	5		Orbit Phase	J8 - B				
C 6											516-10	6		Abort RTN	J8 - 3				
7											Not Conn.	7		Orbit RTN	J8 - C				Note 2
D 8												8							
9												9							
E 10												15							
11												14							
F 12												13							
G 13												12							
14												11							
H 15												10							
16												16							
I 17												17							
18												18							
J 19												19							
20												20							
K 21												21							
22												22							
L 23												30							
24												29							
M 25												28							
26												27							
N 27												26							
28												25							
O 29												24							
30												23							
P 31												31							
32												32							
Q 33												33							
34												34							
R 35												35							
36												36							
S 37												37							
38												43							
T 39												42							
40												41							
U 41												40							
42												39							
V 43												38							
44												44							
W 45												45							
46												46							
X 47												47							
48												48							
Y 49												49							
Z 50											Not Conn.	50							
-											Bus	RTN							
											Bus	SP4 - RTN							

PIN	SOURCES				SWITCH UNIT				DIGITAL JUNCTION			D/A CONVERTER			I.B.M INTRFACE JUNC. BOX	STROM-BERG INTRFACE	DISPLAY UNITS		REMARKS
	BIT	OUTPUTS		B-GE REG.		INPUT			OUTPUT	CONNECTOR IN J515			UNIT	CONNECTOR			JUNC. BOX T.B. 18 Col.-Row-Term			
		A-REG.	B-REG.	BIT	OUTPUT	A-REG.	B-REG.	B-GE		P.B. PIN	PLUGBOARD PATCH	P.B. PIN OUT		DIGITAL INPUT	ANALOG OUTPUT	CONN.		UNIT	INPUT	
1						(Note 3)			3K2	515 - 1	616-21									
A										/48 V										
2						(Note 4)				515 - 3	616-28									
B										/48 V RTN										
3						(Note 4)				515 - 5	616-26									
C										/48 V										
4						(Note 4)				515 - 7	616-27									
D										/48 V RTN										
5						(Note 4)				515 - 9	616-24									
E										15	Not Conn.									
6						(Note 4)				14	616-23									
F										13	Not Conn.									
7						(Note 4)				12	616-25									
G										11	Not Conn.									
8						(Note 4)				10	616-31									
H										16	Not Conn.									
9						(Note 4)				17	616-33									
I										18	Not Conn.									
10						(Note 4)				19	616-32									
J										20	Not Conn.									
11						(Note 3)				21	616-30									
K										22	Not Conn.									
12						(Note 3)				30	616-22, K10-3									
L										29	Not Conn.									
13						(Note 3)				28	616-29									
M										27	Not Conn.									
14										26										
N										25										
15										24										
O										23										
16										31										
P										32										
17										33										
Q										34										
18										35										
R										36										
19										37										
S										38										
20										39										
T										40										
21										41										
U										42										
22										43										
V										44										
23										45										
W										46										
24										47										
X										48										
25										49										
Y										50	Not Conn.									
Z										RTN	Bus									
-									3K2	515 - RTN	Bus									

PIN	SOURCES				SWITCH UNIT				DIGITAL JUNCTION			D/A CONVERTER			I.B.M INTRFACE JUNC. BOX	STROM-BERG INTRFACE	DISPLAY UNITS		REMARKS
	BIT	OUTPUTS		B-GE REG.		INPUT			OUTPUT	CONNECTOR IN ____		OUT J516	UNIT	CONNECTOR		CONN. ___	JUNC. BOX T. B. 19	UNIT	INPUT	
		A-REG.	B-REG.	BIT	OUTPUT	A-REG.	B-REG.	B-GE		P.B. PIN	PLUGBOARD PATCH.	P.B. PIN		DIGITAL INPUT	ANALOG OUTPUT		Col.-Row-Term			
1											Not Conn.	516 - 1								
A											Not Conn.	2					30-01-04	Wall Indicator		Note 1A
2											Not Conn.	3								
B											Not Conn.	4					30-01-05	Wall Indicator		Note 1A
3											616-4	5					29-06-02			
C											616-5	6					29-06-03			
4											616-6	7					30-04-01			
D											616-7	8					29-04-02	Wall Indicator		Note 1A
5											SP4-3	9					33-12-01			
E											Not Conn.	15								
6											616-19	14					33-12-07			
F			Note 6:	The following information is logically generated at the IBM Digital							616-20	13					33-12-06			
7				Junction box from bits 41, 42, and 43 and sent to the Stromberg							616-18	12					33-12-04			
G				Interface box thru.							Not Conn.	11								
8				Column 516							SP4-5 & 6	10					33-12-02			
H			Hub:	17 Confirm IP 709 (AZIZA) for IBM 7090							Not Conn.	16								
9				18 " " " " " "					Return		K3NC4	17					29-06-08	Wall Indicator		Note 6
I				19 Confirm IP 709 (FPS-16) for IBM 7090							K3NC3	18					29-06-09			
10				20 " " " " " "					Return		K3NO4	19					30-01-01			
J				22 Confirm B-G.E. for IBM 7090							K3NO3	20					30-01-02			
11				21 " " " " "					Return		K2NC3	21					29-06-06			
K				30 Confirm Ray Radar for IBM 7090							K1NO3	22					29-06-05			
13				29 " " " " "					Return		K1NC3	30					30-02-06			
L											K2NO3	29					30-02-07	Wall Indicator		Note 6
13											Not Conn.	28								
M											Not Conn.	27								
14											Not Conn.	26								
N											K19C1	25				(Signal)	31-02-09	Plot I,		Timing Mark
15											Not Conn.	24				(Shield)	31-02-08	II, III, IV		Note (See Below)
O												23								
16												31								
P												32								
17												33								
Q												34								
18												35								
R												36								
19												37								
S												43								
20												42								
T												41								
21												40								
U												39								
22												38								
V												44								
23												45								
W											SP4-4	46					33-12-03			
24												47								
X												48								
25												49								
Y											Not Conn.	50								
Z											Bus	RTN								
-											Bus	516 RTN								
											Note: Signal (48V) line for timing mark to plot bds.									



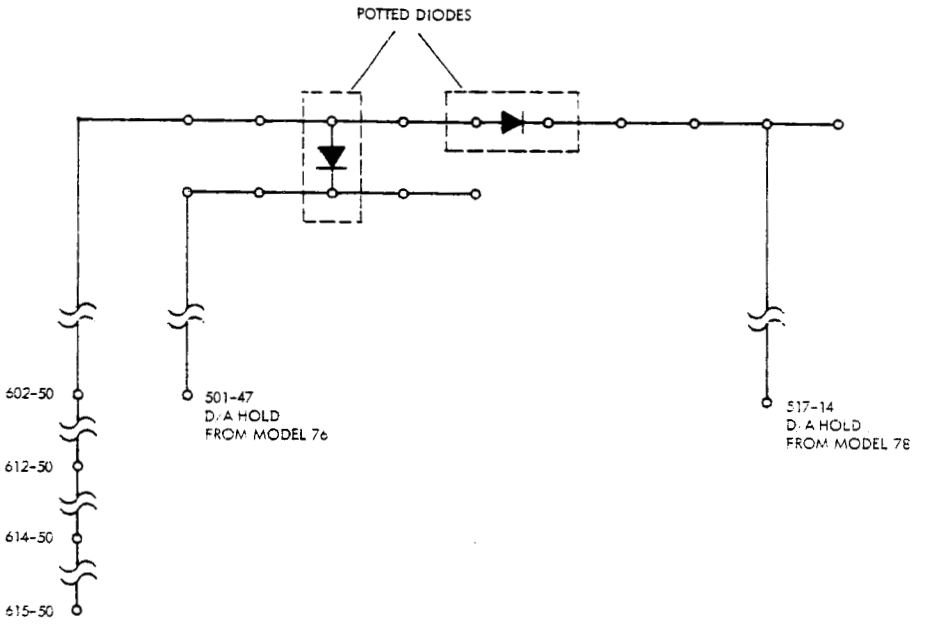


FIGURE A-1. CONNECTIONS FOR D/A HOLD TRIGGER LINE

APPENDIX B

CONNECTIONS TO AND FROM INTERFACE JUNCTION BOX

CONNECTOR INDEX, INTERFACE JUNCTION BOX

FUNCTION	CONNECTED EQUIPMENT		FLOW	IBM INTERFACE JUNCTION BOX								CONNECTED EQUIPMENT	
	UNIT	TERMINATION		CONN	PIN	JUMPERS TER	JUMPERS TER	JUMPERS TER	JUMPERS TER	CONN	PIN	UNIT	TERMINATION
B-GE to Simplex Receive	WECO Central Dist. Frame		→	J3	1	A1-a	*	**	A2-a	J4	1	B-GE	J16-B
Return	600 ohm term.		↑		A	b	*	**	b		A		J16-C
Goddard to receiver No. 1 GD1262		CDF 7H - 3			2	c			c		2	MEC Receivers	P1 -A
Return	600 ohm term.	- 4			B	d			d		B		P1 -D
Goddard to receiver No. 2 GD1263		- 5			3	e			e		3		P2 -A
Return	600 ohm term.	- 6			C	f			f		C		P2 -D
Goddard to receiver No. 3 GD1264		- 7			4	g			g		4		P3 -A
Return	600 ohm term.	- 8			D	h			h		D		P3 -D
Goddard to receiver No. 4 GD1265	600 ohm term.	- 9			5	j			j		5		P4 -A
Return	WECO Central Dist. Frame	CDF 7H - 10			E	k			k		E	MEC Receivers	P4 -D
Spare	Spare				6	l			l		6	Spare	
Spare	Spare		→		F	A1-m			A2-m	J4	F	Spare	
T/E BFR to I-709 BFR	WECO Central Dist. Frame		←		7	B2-a	B1 c		B1-a	J1	A	Telm Event Trans BFR	J9-A
Return			↑		G	b	B1 d		b	J1	B		J9-B
Spare					8	c		B2 a	c	J1	C		J9-C
Spare					H	d		B2 b	d	J1	D		J9-D
T/E BFR to B-GE BFR			→		9	e	B1 g		e	J2	A		J10-A
Return			←		I	f	B1 h		f	J2	B		J10-B
Spare					10	g		B2 e	g	J2	C		J10-C
Spare					J	h		B2 f	h	J2	D	Telm Event Trans BFR	J10-D
Spare					11	j			j			Spare	
Spare					K	k			k			Spare	
Spare					12	l			l			Spare	
Spare					L	B2-m			B1-m			Spare	
Spare			←		13	D6-a			D5-a	J5	19		
Spare			↑		M	b			b		S		
Spare					14	c			c		20		
Spare					N	d			d		T		
Spare					15	e			e		21		
Spare	WECO Central Dist Frame		←		O	D6-f			D5-f	J5	U		
					16								
					P				B2 e	J1A	A	"A" Sim - Record TLM Events	J5
					17				B2 f	J1A	B	"A" Sim - Record TLM Events	J5
					Q				B2 a	J1A	C		J7
					18				B2 b	J1A	D		J7
					R								
					19								
					S								
					20								
					T								
					21								
					U								
					22								
					V								
					23								
					W								
					24								
					X								
					25								
					Y								
* Jumpered to operational patch jack					+								
** Connected to phone jack tip				J3	-								

FUNCTION	CONNECTED EQUIPMENT		FLOW	IBM INTERFACE JUNCTION BOX								CONNECTED EQUIPMENT	
	UNIT	TERMINATION		CONN	PIN	JUMPERS TER	JUMPERS TER	JUMPERS TER	JUMPERS TER	CONN	PIN	UNIT	TERMINATION
Control of A Simulator Start Tape	A Simulator	J16-P	←	J6	1	B4-a			B3-a	J5	1	Simulation Console	TB 046 -3
Return		J16-N			A	b			b		A		TB 046 -4
Spare					2	c			c		2		
Spare					B	d			d		B		
Stop Tape		J16-R			3	e			e		3		TB 046 1
Rtn		J16-S			C	f			f		C		2
Record		J16-M			4	g			g		4		5
Rtn		J16-N			D	h			h		D		6
Spare					5	j			j		5		
Spare					E	k			k		E		
Spare					6	l			l		6		
Spare					F	B4-m			B3-m		F		
Confirm tape fwd motion		J16-C			7	C4-a			C3-a		7		TB 046 -14
Rtn		J16-B			G	b			b		G		-19
Spare					8	c			c		8		
Spare					H	d			d		H		
Control of A Simulator confirm tape	stopped	J16-A			9	e			e		9		TB 046 13
Return		J16-G			I	f			f		I		19
Confirm record		J16-H			10	g			g		10		15
Return		J16-G			J	h			h		J	Simulation Console	19
Spare					11	j			j		11		
↕					K	k			k		K		
					12	l			l		12		
Spare	A Simulator		←		L	C4-m			C3-m	J5	L		
					13								
					M								
					14								
					N								
					15								
					O								
					16								
					P								
					17								
					Q								
					18								
					R								
					19								
					S								
					20								
					T								
					21								
					U								
					22								
					V								
					23								
					W								
					24								
					X								
					25								
					Y								
				↓	+								
				J6	-								

FUNCTION	CONNECTED EQUIPMENT		FLOW	IBM INTERFACE JUNCTION BOX								CONNECTED EQUIPMENT	
	UNIT	TERMINATION		CONN	PIN	JUMPERS TER	JUMPERS TER	JUMPERS TER	JUMPERS TER	CONN	PIN	UNIT	TERMINATION
Spare	"B" Simulator	J7-1	→	J7	1	A5-a		A5g	A6-a	J12	23	Telm event Trans BFR	J5-60
		-A			A	b		A5h	b		W		61
Simulated IP or Radar Data		-2			2	c			c		24		62
Return		-B			B	d			d		X		63
Start IP T/E MSG.		-3			3	e			e		25		64
Return		-C			C	f			f	J12	Y		J5-65
Simulate Timing Channel		-4			4	g	A6 a	A5g	g	J18	23		J15-60
Return		-D			D	h	A6 b	A5h	h		W		61
Simulate B-GE Data		-5			5	j			j		24		62
Return		-E			E	k			k		X		63
Start B-GE T/E MSG.		-6			6	l			l		25		64
Return		-F			F	A5-m			A6-m	J18	Y	Telm event trans. BFR	J15-65
Simulated B-GE Direct Data		-7			7	B5-a			B6-a	Simpatch ja		MEC Receivers Model 78	
Return		-G			G	b			b	Simpatch ja		MEC Receivers Model 78	
Spare		-8			8	e			e	J8	7		
		-H			H	f			f		G		
		-9			9	g			g		8		
		-I			I	h			h		H		
		-10			10	j			j		9		
		-J			J	k			k		I		
		-11			11	l			l		10		
		-K			K	B5-m			B6-m		J		
		-12			12	C5-a			C6-a		11		
		-L			L	b			b		K		
		-13			13	c			c		12		
		-M			M	d			d		L		
		-14			14	e			e		13		
		-N			N	f			f		M		
		-15			15	g			g		14		
		-O			O	h			h		N		
		-16			16	j			j		15		
		-P			P	k			k		O		
		-17	↓		17	l			l		16		
Spare		-Q	→		Q	C5-m			C6-m	J8	P		
Control of B Simulator 2" Lift	off start tape fwd motion	-18	←		18	D4-a			D3-a	J5	13	Simulation Console	TB 045 -13
Return		-R	↑		R	b			b		M		045 12
Manual start tape fwd motion		-19			19	c			c		14		046 9
Rtn		-S			S	d			d		N		046 10
Rewind tape		-20			20	e			e		15		046 11
Rtn		-T			T	f			f		O		046 12
Stop Tape Drive		-21			21	g			g		16		046 7
Rtn		-U			U	h			h		P		046 8
Inhibit IP-709 data to Goddard		-22			22	j			j		17		047 3
Rtn		-V			V	k			k		Q		047 2
Inhibit GE/B data to Mcc		-23			23	l			l		18		047 9
Rtn		-W			W	D4-m			D3-m		R		047 8
Inhibit T/E data to Goddard		-24			24	D6-g			D5-g		22		047 6
Rtn		-X			X	h			h		V		047 5
Inhibit GE/B data to Goddard		-25			25	j			j		23		047 12
Rtn		-Y			Y	k			k		W		047 11
Control of B Simulator seco &	abort initiate	-+	↓		+	l			l		24		064 15
Return	"B" Simulator	J7 - -	←	J7	-	D6-m			D5-m	J5	X		064 16

FUNCTION	CONNECTED EQUIPMENT		FLOW	IBM INTERFACE JUNCTION BOX							CONNECTED EQUIPMENT	
	UNIT	TERMINATION		CONN	PIN	JUMPERS TER	JUMPERS TER	JUMPERS TER	JUMPERS TER	CONN	PIN	UNIT	TERMINATION
Capsule elapsed time 20hr.	Telm Event Trans BFR	J5- 1	←	J10	1	A8-a			A7-a	J9	1	Bendix PAC Fine monitor	J2- 1
10	↑	2	↑	↑	A	b			b	↑	A	CAB.	2
8		3			2	c			c		2		4
4		4			B	d			d		B		5
2		5			3	e			e		3		7
1		6			C	f			f		C		8
40min.		7			4	g			g		4		10
20		8			D	h			h		D		11
10		9			5	j			j		5		13
8		10			E	k			k		E		14
4		11			6	l			l		6		16
2		12			F	A8-m			A7-m		F		17
1		13			7	B8-a			B7-a		7		19
40sec		14			G	b			b		G		20
20		15			8	c			c		8		22
10		16			H	d			d		H		23
8		17			9	e			e		9		25
4		18			I	f			f		I		26
2		19			10	g			g		10		28
Capsule elapsed time 1sec		20			J	h			h		J		29
Capsule elapsed time return		21			11	j			j		11		31
Retrofire sett.ng 20hr.		22			K	k			k		K		33
10		23			12	l			l		12		34
8		24			L	B8-m			B7-m		L		35
4		25			13	C8-a			C7-a		13		37
2		26			M	b			b		M		38
1		27			14	c			c		14		40
Retrofire setting 40min		28			N	d			d		N		41
CET Return		42			15	e			e		15		42
Retrofire setting 20min		29			O	f			f		O		43
10		30			16	g			g		16		44
8		31			P	n			n		P		46
4		32			17	j			j		17		47
2		33			Q	k			k		Q		49
1		34			18	l			l		18		50
40sec.		35			R	C8-m			C7-m		R		52
20		36			19	D8-a			D7-a		19		53
10		37			S	b			b		S		55
8		38			20	c			c		20		56
4		39			T	d			d		T		58
2		40			21	e			e		21		59
Retrofire Setting 1sec		41			U	f			f		U		61
Retrofire setting return		45			22	g			g		22		62
Retrofire setting return		47			V	h			h		V		63
Spare		43			23	j			j		23		48
Spare		44			W	k			k		W		51
Spare	↓	52	↓		24	l			l	↓	24	↓	54
Spare	Telm Event Trans BFR	J5 - 53	←		X	D8-m			D7-m	J9	X	Bendix Pac Fine monitor	J2- 57
					25						25	CAB.	
					Y						Y		
					+						+		
				J10	-						-		

FUNCTION	CONNECTED EQUIPMENT		FLOW	IBM INTERFACE JUNCTION BOX								CONNECTED EQUIPMENT	
	UNIT	TERMINATION		CONN	PIN	JUMPERS TER	JUMPERS TER	JUMPERS TER	JUMPERS TER	CONN	PIN	UNIT	TERMINATION
Spare	Telm Event Trans BFR	J5 - 54	←	J12	1	D10-a			D9-a	J11	1	Bendix Pac Fine Monitor CAB	J2 - 60
Spare		56			A	b			b		A		66
Cet not valid		46			2	c			c		2		64
RF setting not valid		55			B	d			d		B		65
CET ambiguity		48			3	e			e		3		67
Ambiguity return		49			C	f			f		C		68
Ambiguity return		51			4	g			g		4		69
Retrofire setting ambiguity		50			D	h			h		D		70
Spare		57			5	j			j		5		71
Spare		58			E	k			k		E		72
Spare		66			6	l			l		6		73
	Telm Event Trans BFR	J5 - 67	←		F	D10-m			D9-m	J11	F	Bendix Pac Fine Monitor CAB	J2 - 74
					7					J11	7	Spare to Bendix PAC Fine Monitor CAB	J2 75
					G								
					8								
					H								
					9								
					I								
					10								
					J								
					11								
					K								
					12								
					L								
					13								
					M								
					14								
					N								
					15								
					O								
					16								
					P								
					17								
					Q								
					18								
					R								
					19								
					S								
					20								
					T								
					21								
					U								
					22								
Simulate IP Timing Channel	Telm Event trans. BFR	J5 - 60	←		V								
Sim. IP Timing Chan return		61			23	A6-a	J7		A5-g		4	B Simulator	J7-4
Sim IP or Radar Data		62			W	b			h		D		D
Sim IP or Radar Data return		63			24	c			c		2		2
Start IP T/E MSG.		64			X	d			d		B		B
Start IP T/E MSG. return		J5- 65	←		25	e			e		3		3
					Y	A6-f	J7		A5-f		C	B Simulator	C
				J12	+								
					-								

FUNCTION	CONNECTED EQUIPMENT		FLOW	IBM INTERFACE JUNCTION BOX								CONNECTED EQUIPMENT	
	UNIT	TERMINATION		CONN	PIN	JUMPERS TER	JUMPERS TER	JUMPERS TER	JUMPERS TER	CONN	PIN	UNIT	TERMINATION
43 Posigrade 1 of 3 Fired	Telm Event trans. BFR	J6-1	←	J14	1	A10-a	A9 j	A10 l	A9-a	J13	1	Stromberg Signal Dist PNL	07-01-10
Return		-2			A	-b	A9 k	A10 m	-b		A	(TB-18)	07-02-01
44 Posigrade 2 of 3 Fired		-3			2	-c	A9 l	C12 c	-c		2		07-02-09
Return		-4			B	-d	A9 m	C12 d	-d		B		07-02-10
45 Posigrade 3 of 3 Fired		-5			3	-e	B9 a	B10 a	-e		3		07-02-10
Return		-6			C	-f	B9 b	B10 b	-f		C		08-02-01
46 Retro 1 Fired		-7			4	-g	B9 g	B10 e	-g		4		07-08-08
Return		-8			D	-h	B9 h	B10 f	-h		D		07-03-09
48 Retro 1, 2, & 3 Fired		-9			5	-j	B9 l	A10 a	-j		5		05-02-09
Return		-10			E	-k	B9 m	A10 b	-k		E		05-02-10
49 Lift Off		-11			6	-l	A9 a	A10 c	-l		6		06-01-04
Return		-12			F	A10-m	A9 b	A10 d	A9-m		F		06-01-05
50 Escape Tower Released		-13			7	B10-a	A9 e	A10 e	B9-a		7		06-02-03
Return		-14			G	-b	A9 f	A10 f	-b		G		06-02-04
47 Retro 1 & 2 Fired		-15			8	-c	B9 j	B10 g	-c		8		06-03-02
Return		-16			H	-d	B9 k	B10 h	-d		H		06-03-03
51 Tower Escape Rockets Fired		-17			9	-e	A9 g	B10 j	-e		9		01-11-01
Return		-18			I	-f	A9 h	B10 k	-f		I		01-11-02
52 Capsule Released from Sustainer		-19			10	-g	A9c B12a	A10 g	-g		10		08-03-03
Return		-20			J	-h	A9d B12b	A10 h	-h		J		08-03-04
53 Abort Sequence Initiated*		-21			11	-j	A9e C10g	B10 c	-j		11		08-03-09
Return		-22			K	-k	A9f C10h	B10 d	-k		K		08-03-10
54 Abort Phase has Started		-23			12	-l	C11e C10i	A10 j	-l		12		09-01-05
Return		-24			L	B10-m	C10k C11f	A10 k	B9-m		L		09-01-06
58 Lift Off		-25			13	C10-a	C12 j	Spare	C9-a		13		07-03-02
Return		-26			M	-b	C12 k	Spare	-b		M		07-03-03
59 Escape Tower Released.		-27			14	-c	C12 g B10 j	Spare	-c		14		08-02-03
Return		-28			N	-d	C12 h B10 g	Spare	-d		N		08-02-04
60 Tower Escape Rocket Fired		-29			15	-e	C12 e		-e		15		08-01-01
Return		-30			O	-f	C12 f		-f		O		08-01-02
62 Abort Sequence Initiated*		-31			16	-g	B10 j B12 g		-g		16		05-03-02
Return		-32			P	-h	B10 g B12 h		-h		P		05-03-03
63 Abort Phase has Started		-33			17	-j	B10 l		-j		17		06-01-07
Return		-34			Q	-k	B10 m		-k		Q		06-01-08
64 Orbit Phase has Started		-35			18	-l	B12 c C12 a		-l		18		06-02-06
Return	Telm Event trans. BFR	J6-36	←		R	C10-m	B12 d C12 b	Spare	C9-m	J13	R	Stromberg Signal Dist. PNL	06-02-07
					19								
					S								
					20								
					T								
					21								
					U								
					22								
					V								
* See Diagram page B-11.					23								
					W								
					24								
					X								
					25								
					Y								
					+								
				J14	-								

FUNCTION	CONNECTED EQUIPMENT		FLOW	IBM INTERFACE JUNCTION BOX								CONNECTED EQUIPMENT	
	UNIT	TERMINATION		CONN	PIN	JUMPERS TER	JUMPERS TER	JUMPERS TER	JUMPERS TER	CONN	PIN	UNIT	TERMINATION
61 Capsule Released from sustainer	Telm Event Trans BFR	J6-37	←	J16	1	B12-a	B12j B10g	Spare	B11-a	J15	1	Stromberg Signal Dist PNL	06-03-05
Return	↑	-38	↑	↑	A	b	B12k B10h	↑	b	↑	A	↑	06-03-06
65 Orbit Phase has Started		-39			2	c	C10l		c		2		01-11-04
Return		-40			B	d	C10m		d		B		01-11-05
66 Abort Phase has Started		-41			3	e	C11e		e		3		08-03-05
Return		-42			C	f	C11f		f		C		08-03-06
67 Abort Sequence Initiated*		-43			4	g	C10g		g		4		09-01-01
Return		-44			D	h	C10h		h		D		09-01-02
68 Capsule Released from Sustainer		-45			5	j	B12a	↓	j	↓	5		09-01-07
Return		-46			E	k	B12b	Spare	k	J15	E	Stromberg Signal Dist. PNL	09-01-08
56 Select B-GE Data		-47			6	l			l	J 8	1	Digital Junction Box	JSP4-1
Return		-48			F	B12-m			B11-m	J 8	A	Digital Junction Box	JSP4-A
55 Orbit Phase has Started		-49			7	C12-a	C10l C11g		C11-a	J15	7	Stromberg Signal Dist. PNL	-
Return		-50			G	b	C10m C11h		b	J15	G	↑	-
57 Positive SECO Event *		-51			8	c	A9c	Spare	c	J15	8	↓	07-02-03
Return		-52			H	d	A9d	Spare	d	J15	H	Stromberg Signal Dist. PNL	07-02-04
69 Tower Escape Rockets Fired		-53			9	e	C10e	B12e B10e	e	J 8	2	Digital Junction Box	JSP4-2
Return		-54			I	f	C10f	B12f B10m	f	↑	3	↑	-3
70 Escape Tower Released		-55			10	g	C10e	C12a	g		B		-B
Return		-56			J	h	C10d	C12b	h		C		-C
71 Lift-Off		-57			11	j	C10a		j		4		-4
Return		-58			K	k	C10b		k		D		-D
Spare	↓	-59	↓		12	l			l	↓	5	↓	-5
Spare	Telm Event Trans BFR	J6-60	←		L	C12-m			C11-m	J 8	F	Digital Junction Box	JSP4-E
					13								
					M								
					14								
					N								
					15								
					O								
					16								
					P								
					17								
					Q								
					18								
					R								
					19								
					S								
* See Diagram, page B-11.					20								
					T								
					21								
					U								
					22								
					V								
					23								
					W								
					24								
					X								
					25								
					Y								
				↓	+								
				J16	-								

FUNCTION	CONNECTED EQUIPMENT		FLOW	IBM INTERFACE JUNCTION BOX								CONNECTED EQUIPMENT	
	UNIT	TERMINATION		CONN	PIN	JUMPERS TER	JUMPERS TER	JUMPERS TER	JUMPERS TER	CONN	PIN	UNIT	TERMINATION
Spare	Bendix Pac Fine Mon Cab	J12 - 60	→	J17	1	D11-a			D12-a	J18	1	Telm Event trans BFR	J15-54
Spare		66			A	b			b		A		56
Cet not valid		64			2	c			c		2		46
RE Setting not valid		65			B	d			d		B		55
CET ambiguity		67			3	e			e		3		48
Ambiguity return		68			C	f			f		C		49
Ambiguity Return		69			4	g			g		4		51
Retrofire Setting Ambiguity		70			D	h			h		D		50
Spare		71			5	i			i		5		57
Spare		72			E	k			k		E		58
Spare		73			6	l			l		6		66
Spare	Bendix Pac Fine Mon Cab	J12 - 74	→		F	D11-m			D12-m	J18	F	Telm Event Trans. BFR	J15 - 67
					7								
					G								
					8								
					H								
					9								
					I								
					10								
					J								
					11								
					K								
					12								
					L								
					13								
					M								
					14								
					N								
					15								
					O								
					16								
					P								
					17								
					Q								
					18								
					R								
					19								
					S								
					20								
					T								
					21								
					U								
					22								
					V								
					23								
					W								
					24								
					X								
					25								
					Y								
				J17	+								
					-								

FUNCTION	CONNECTED EQUIPMENT		FLOW	IBM INTERFACE JUNCTION BOX								CONNECTED EQUIPMENT	
	UNIT	TERMINATION		CONN	PIN	JUMPERS TER	JUMPERS TER	JUMPERS TER	JUMPERS TER	CONN	PIN	UNIT	TERMINATION
Capsule Elapsed Time 20hr	Telm Event Trans BFR	J15- 1	←	J20	1	A14-a			A13-a	J19	1	Bendix Pac Fine Monitor CAB	J12 -1
10hr		2			A	b			b		A		-2
8hr		3			2	c			c		2		4
4		4			B	d			d		B		5
2		5			3	e			e		3		7
1		6			C	f			f		C		8
40mm		7			4	g			g		4		10
20mm		8			D	h			h		D		11
10		9			5	j			j		5		13
8		10			E	k			k		E		14
4		11			6	l			l		6		16
2		12			F	A14-m			A13-m		F		17
1		13			7	B14-a			B13-a		7		19
40sec		14			G	b			b		G		20
20		15			8	c			c		8		22
10		16			H	d			d		H		23
8		17			9	e			e		9		25
4		18			I	f			f		I		26
2		19			10	g			g		10		28
1		20			J	h			h		J		29
Capsule Elapsed Time Return		21			11	j			j		11		31
Retrofire Setting 20hr		22			K	k			k		K		32
10		23			12	l			l		12		34
8		24			L	B14-m			B13-m		L		35
4		25			13	C14-a			C13-a		13		37
2		26			M	b			b		M		38
1		27			14	c			c		14		40
40mm		28			N	d			d		N		41
CET Return		42			15	e			e		15		42
20mm		29			O	f			f		O		43
10		30			16	g			g		16		44
8		31			P	h			h		P		46
4		32			17	i			j		17		47
2		33			Q	k			k		Q		49
1		34			18	l			l		18		50
40sec		35			R	C14-m			C13-m		R		52
20sec		36			19	D14-a			D13-a		19		53
10		37			S	b			b		S		55
8		38			20	c			c		20		56
4		39			T	d			d		T		58
2		40			21	e			e		21		59
1		41			U	f			f		U		61
Return		45			22	g			g		22		62
Retrofire Setting Return		47			V	h			h		V		63
Spare		43			23	i			j		23		48
Spare		44			W	k			k		W		51
Spare		52			24	l			l		24		54
Spare	Telm Event Trans BFR	J15 - 53	←		X	D14-m			D13-m	J19	X	Bendix Pac Fine Monitor CAB	J12-57
					25								
					Y								
				J20	+								
					-								

FUNCTION	CONNECTED EQUIPMENT		FLOW	IBM INTERFACE JUNCTION BOX								CONNECTED EQUIPMENT	
	UNIT	TERMINATION		CONN	PIN	JUMPERS TER	JUMPERS TER	JUMPERS TER	JUMPERS TER	CONN	PIN	UNIT	TERMINATION
Spare	"B" Simulator	J6	→	J22	1					J21	1	AMR Console	
Spare					A						A		
Tape F'wd Motion Indicator					2	A4-a			A3-a		2		TB046-17
Return					B	-b			-b		B		-19
Tape Rewinding					3	-c			-c		3		-18
Return					C	-d			-d		C		-19
Tape Stopped					4	-e			-e		4		-16
Return					D	-f			-f		D		-19
Inhibit IP 709 Data					5	-g			-g		5		TB047-13
Return					E	-h			-h		E		-17
Inhibit B/GE to MCC Data					6	-j			-j		6		-15
Return					F	-k			-k		F		-19
Inhibit T/E Data					7	-l			-l		7		-14
Return					G	A4-m			A3-m		G		-18
Inhibit B/GE to Godd. Data					8	C2-a			C1-a		8		-16
Return					H	C2-b			C1-b		H		-20
Abort Confirmed Indicator					9	C2-c			C1-c		9		TB064-1
Return					I	C2-d			C1-d		I		TB056-14
Spare					10						10		
					J						J		
					11						11		
					K						K		
					12						12		
					L						L		
					13						13		
					M						M		
					14						14		
					N						N		
					15						15		
					O						O		
					16						16		
Spare					P						P		
Flight Flag No. 1					17	C2-e			C1-e		17		TB062-1
Return					Q	-f			-f		Q		-2
No. 2					18	-g			-g		18		-3
					R	-h			-h		R		-4
No. 3					19	-j			-j		19		-5
					S	-k			-k		S		-6
No. 4					20	-l			-l		20		-7
					T	C2-m			C1-m		T		-8
No. 5					21	D2-a			D1-a		21		-9
					U	-b			-b		U		-10
No. 6					22	-c			-c		22		-11
					V	-d			-d		V		-12
No. 7					23	-e			-e		23		-13
					W	-f			-f		W		-14
No. 8					24	-g			-g		24		-15
					X	-h			-h		X		-16
No. 9					25	-j			-j		25		-17
					Y	-k			-k		Y		-18
Flight Flag No. 10					+	-l			-l		+		-19
Return	"B" Simulator	J6	→	J22	-	D2-m			D1-m	J21	-	AMR Console	-20

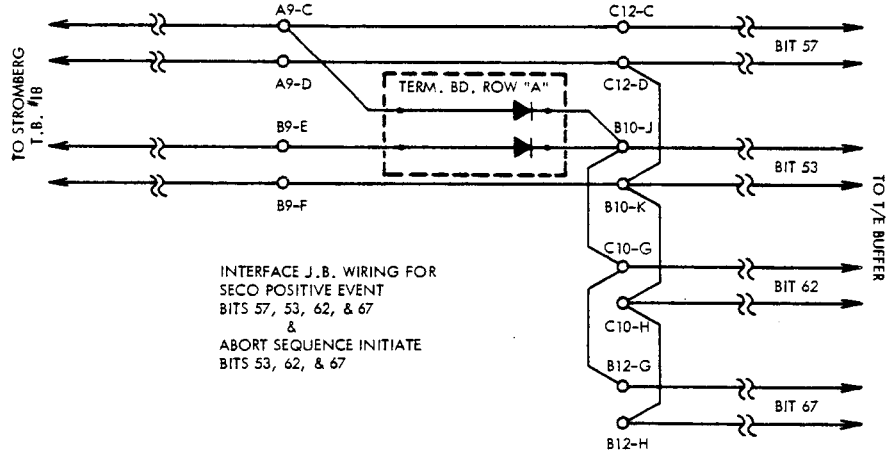


FIGURE B-1. WIRING DIAGRAM FOR SECO EVENT AND ABORT SEQUENCE INITIATE

APPENDIX C

MISCELLANEOUS EQUIPMENT INTERCONNECTION INFORMATION

INDEX, MISCELLANEOUS
EQUIPMENT INTERCONNECTION INFORMATION

Figure

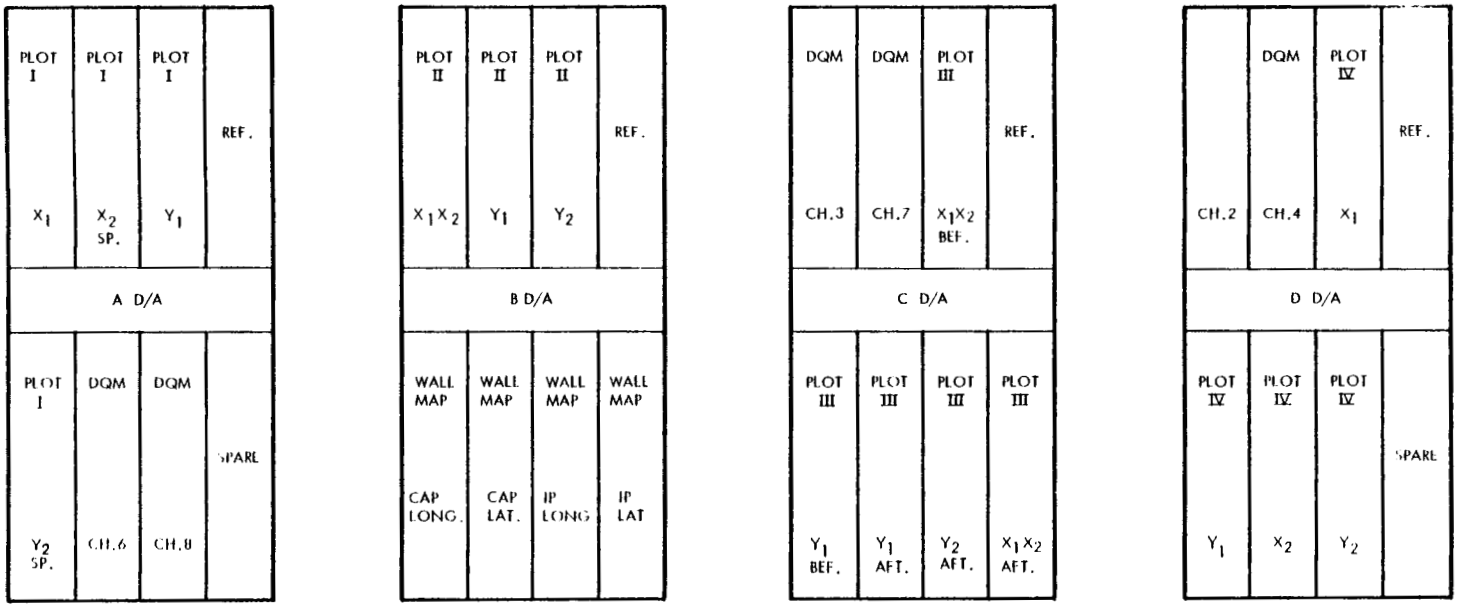


FIGURE C-1. D/A CHANNEL ASSIGNMENT

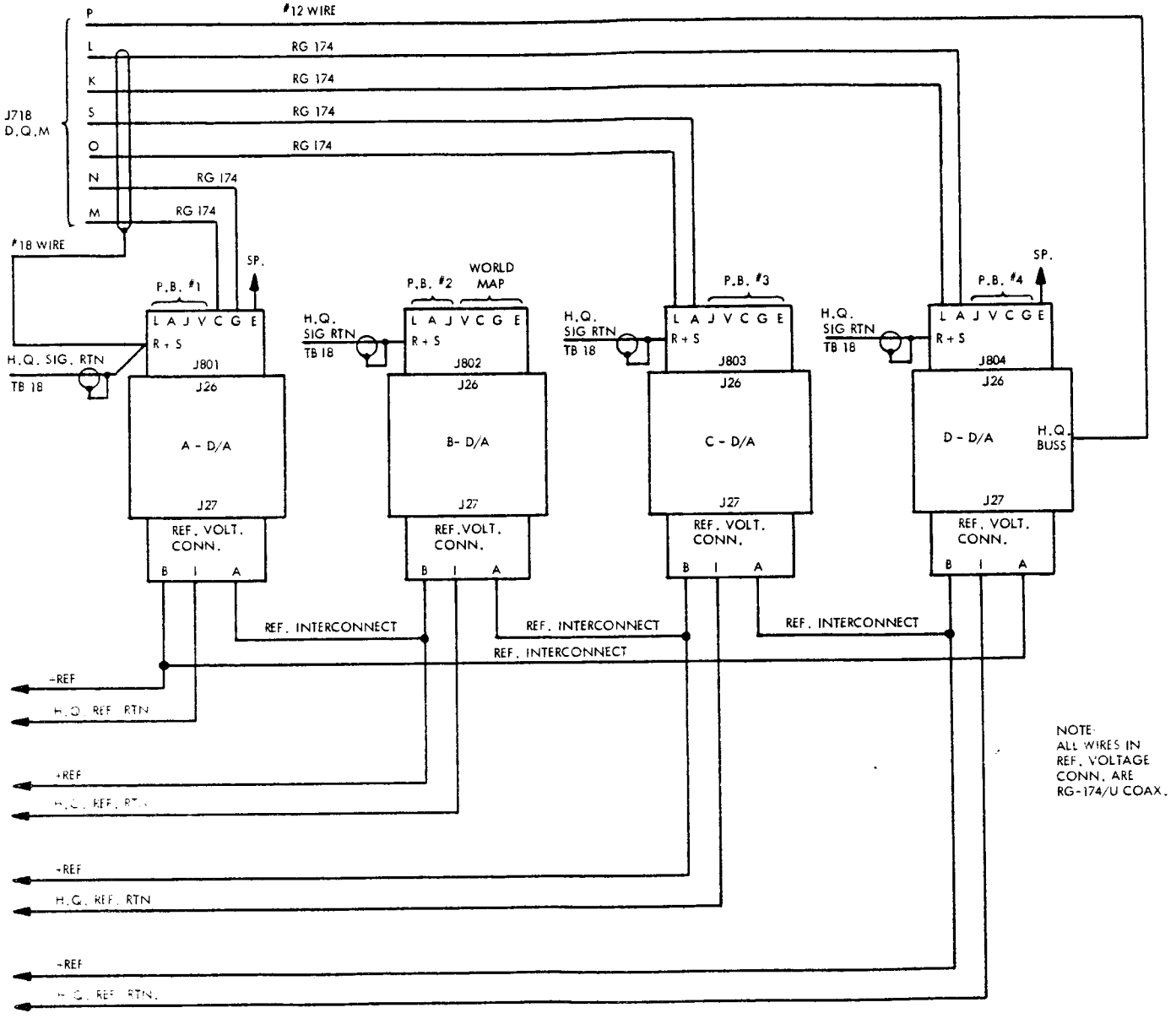
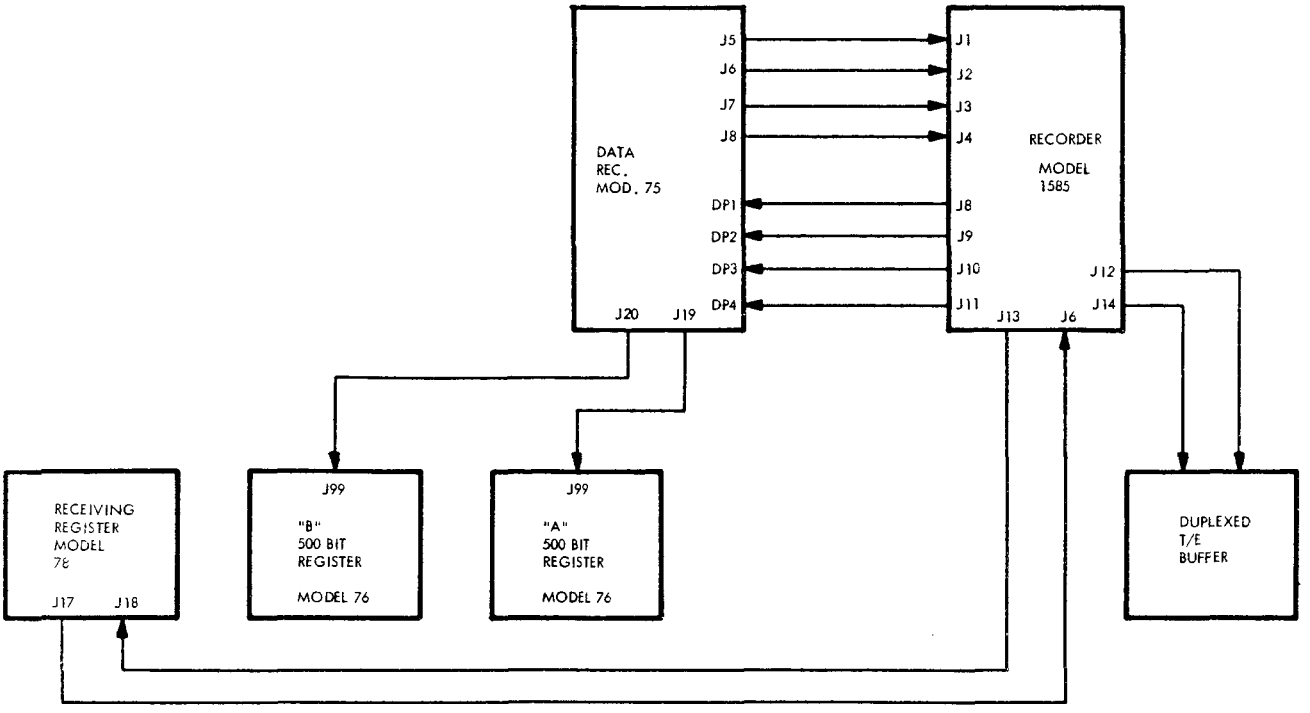


FIGURE C-2. D/A REF. INTERCONNECTION, H. Q. RETURNS AND ANALOGUE TO D.Q.M.



MODEL 1585 RECORDER TO MODEL 75 RECEIVER		
FROM	TO	IDENTIFICATION
J8	DP1	PLAYBACK OF LINE GD 1262
J9	DP2	PLAYBACK OF LINE GD 1263
J10	DP3	PLAYBACK OF LINE GD 1264
J11	DP4	PLAYBACK OF LINE GD 1265

MODEL 75 RECEIVER TO MODEL 1585 RECORDER		
FROM	TO	IDENTIFICATION
J5	J1	RECORDING OF PHONE LINE GD 1262
J6	J2	RECORDING OF PHONE LINE GD 1263
J7	J3	RECORDING OF PHONE LINE GD 1264
J8	J4	RECORDING OF PHONE LINE GD 1265

MODEL 1585 RECORDER TO MODEL 78 RECEIVING REG		
FROM	TO	IDENTIFICATION
J12	J18	PLAYBACK OF B/GE DIRECT DATA

MODEL 78 RECEIVING REG. TO MODEL 1585 RECORDER		
FROM	TO	IDENTIFICATION
J17	J5	B/GE DIRECT DATA

("A")

MODEL 75 RECEIVER TO "B" 500 BIT REG. MODEL 76			
J20 (J19)		J99	
TERMINAL	IDENTIFICATION	TERMINAL	IDENTIFICATION
A	DATA - 1	A	DATA - 1
B	COPY - 1	E	COPY - 1
C	EOW - 1	J	EOW - 1
D	DATA - 2	B	DATA - 2
E	COPY - 2	F	COPY - 2
F	EOW - 2	K	EOW - 2
G	DATA - 3	C	DATA - 3
H	COPY - 3	G	COPY - 3
J	EOW - 3	L	EOW - 3
K	DATA - 4	D	DATA - 4
L	COPY - 4	H	COPY - 4
M	EOW - 4	M	EOW - 4
V	SIGNAL RETURN	Y	SIGNAL RETURN

FIGURE C-3. EQUIPMENT CABLING INTERCONNECTION MODELS 75, 76, 78 and 1585

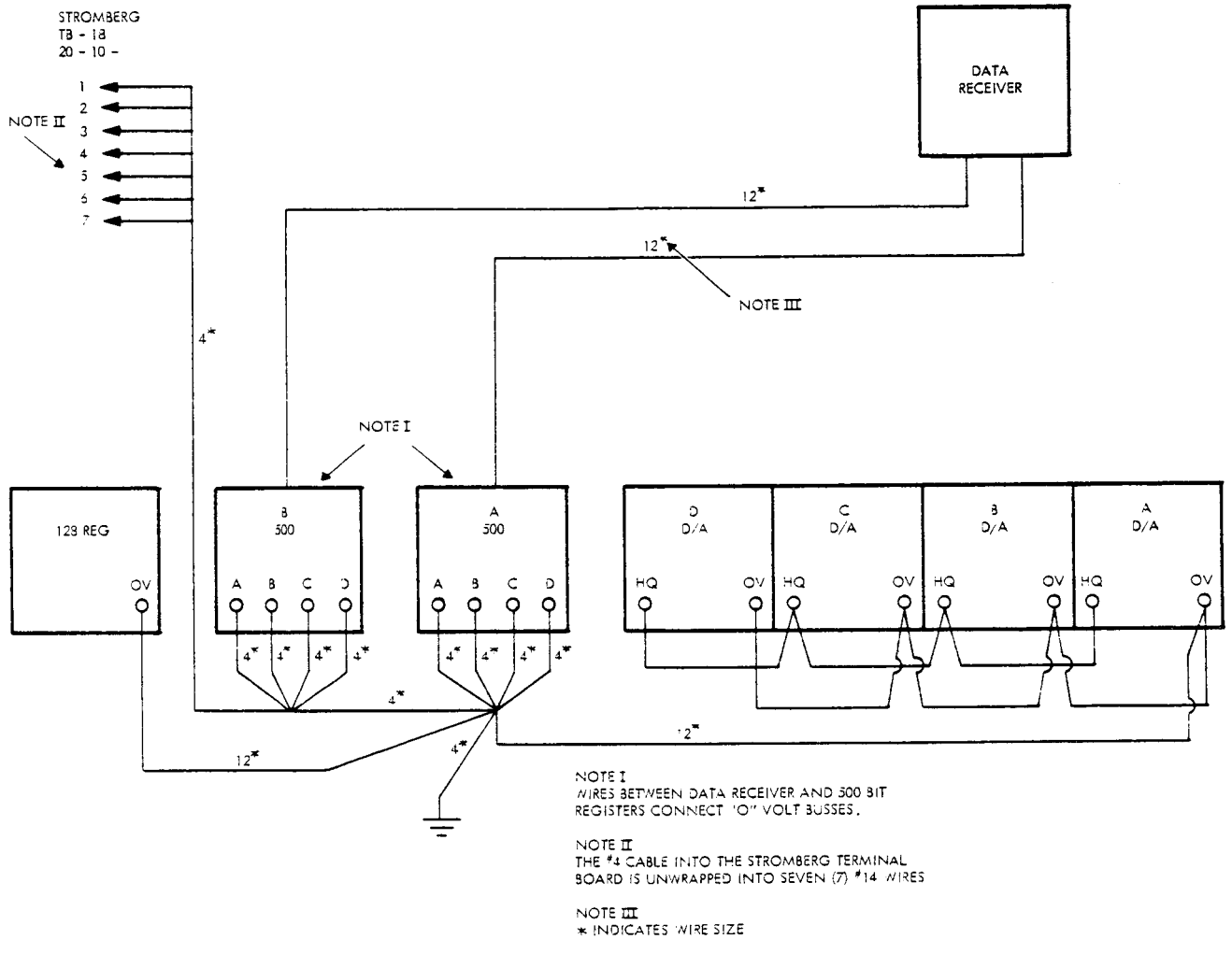


FIGURE C-4. MERCURY CONTROL CENTER SYSTEM GROUND LAYOUT